CPD-200SF/200SFT

SERVICE MANUAL

CPD-200SF

US Model

Canadian Model

ES Model

Chassis No. SCC-K17B-A

Australian Model

Chassis No. SCC-K17D-A

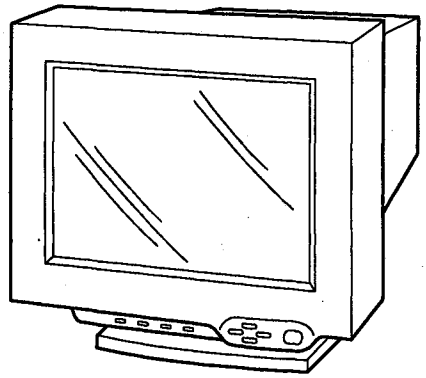
CPD-200SFT

AEP Model

UK Model

Chassis No. SCC-K17C-A

Multiscan 200*sf*



X2R CHASSIS

SPECIFICATIONS

Picture tube	0.25 mm aperture grille pitch 17 inches measured diagonally 90-degree deflection
Viewable image size	Approx. 327 × 241 mm (w/h) (12 7/8 × 9 1/2 inches) 15.9" viewing image
Logical resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines
Physical resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines
Standard image area	Approx. 312 × 234 mm (w/h) (12 3/8 × 9 1/4 inches)
Deflection frequency	Horizontal: 30 to 80 kHz Vertical: 50 to 120 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2 – 1 A
Dimensions	Approx. 406 × 426.5 × 451 mm (w/h/d) (16 × 16 7/8 × 17 7/8 inches)
Mass	Approx. 19 kg (41 lb 14 oz)

Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR COMPUTER DISPLAY

SONY®

DIAGNOSIS

	Power Saving LED	Power LED
Failure	Blink	Blink

Aging Mode : Raster aging — During Power Save, press "POWER switch" button for longer than 2 seconds.
Self Test : OSD color-bar indication — During Power Save, press "POWER switch" button for longer than 8 seconds.

TIMING SPECIFICATION

PRIMARY MODE / MODE AT PRODUCTION	MODE 1	MODE 2	PRIMARY MODE 3	MODE 4	MODE 5	MODE 6	MODE 7	MODE 8	MODE 9	MODE 10	MODE 11
RESOLUTION	800 X 600	832 X 624	1024 X 768	1024 X 768	1152 X 870	1280 X 1024	640 X 480	640 X 350	720 X 400	800 X 600	1024 X 768
CLOCK	49.500 MHz	57.300 MHz	78.750 MHz	80.000 MHz	100.000 MHz	135.000 MHz	25.175 MHz	25.175 MHz	28.322 MHz	56.250 MHz	94.500 MHz
— HORIZONTAL —											
H-FREQ	46.875 kHz	49.740 kHz	60.023 kHz	60.241 kHz	68.681 kHz	79.976 kHz	31.469 kHz	31.469 kHz	31.469 kHz	53.674 kHz	68.677 kHz
	usec	usec	usec	usec	usec	usec	usec	usec	usec	usec	usec
H. TOTAL	21.333	20.105	16.660	16.600	14.560	12.504	31.778	31.778	31.777	18.631	14.561
H. BLK	5.172	5.585	3.657	3.800	3.040	3.022	6.356	6.356	6.355	4.409	3.725
H. FP	0.323	0.558	0.203	0.400	0.320	0.119	0.636	0.636	0.636	0.569	0.508
H. SYNC	1.616	1.117	1.219	1.200	1.280	1.067	3.813	3.813	3.813	1.138	1.016
H. BP	3.232	3.909	2.235	2.200	1.440	1.837	1.907	1.907	1.907	2.702	2.201
H. ACTIV	16.162	14.520	13.003	12.800	11.520	9.481	25.422	25.422	25.422	14.222	10.836
— VERTICAL —											
V. FREQ(HZ)	75.000 Hz	74.572 Hz	75.029 Hz	74.927 Hz	75.062 Hz	75.025 Hz	59.940 Hz	70.086 Hz	70.087 Hz	85.061 Hz	84.997 Hz
	lines	lines	lines	lines	lines	lines	lines	lines	lines	lines	lines
V. TOTAL	625	667	800	804	915	1066	525	449	449	631	808
V. BLK	25	43	32	36	45	42	45	99	49	31	40
V. FP	1	1	1	3	3	1	10	37	12	1	1
V. SYNC	3	3	3	3	3	3	2	2	2	3	3
V. BP	21	39	28	30	39	38	33	60	35	27	36
V. ACTIV	600	624	768	768	870	1024	480	350	400	600	768
— SYNC —											
INT(G)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
EXT(H/V)/POLARITY	YES P/P	YES N/N	YES P/P	YES N/N	YES N/N	YES P/P	YES N/N	YES P/N	YES N/P	YES P/P	YESP/P
EXT(CS)/POLARITY	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
INT/NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT

96.8.30 VER.

Power Saving Function

This monitor meets the power saving guidelines set by the International ENERGY STAR Program as well as the more stringent TCO92 803299 (NUTEK) guidelines. It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

CAUTION: The Power Saving function will automatically put the monitor into Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

	State	Power consumption	Required resumption time	⏻ POWER indicator	POWER SAVING indicator
1	Normal operation	100%	—	green on	off
2	Suspend (1st step of power saving)	approx. 10%	approx. 3 sec.	green on	orange on
3	Active-off (2nd step of power saving)	approx. 7%	approx. 10 sec.	off	orange on
4	Power-off	approx. 7%	–	off	off

If you want the power consumption to be 0W, unplug the power cord.

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

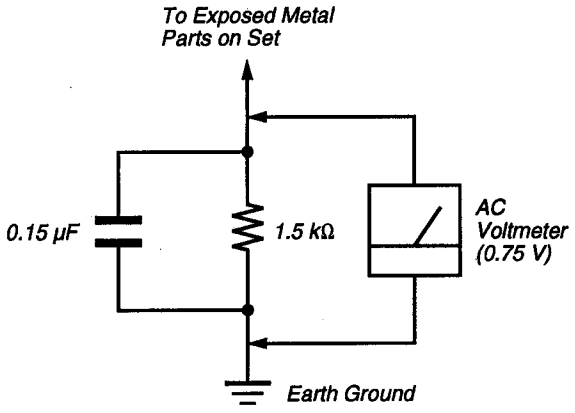


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!
NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!
NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNE-MENT EST SUSPECTÉ.

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The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

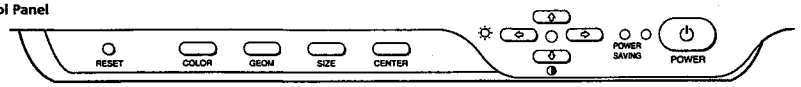
SECTION 1
GENERAL

Adjustments

When one of the preset-type signals is input, no picture adjustment is necessary.
You can, however, adjust the picture to your preferences by following the procedure described below.
You can adjust the all items on the OSD (On Screen Display).

- Before adjusting the items, turn on the unit and feed the video signal from the connected computer/work station.
- Adjustments will be stored automatically.

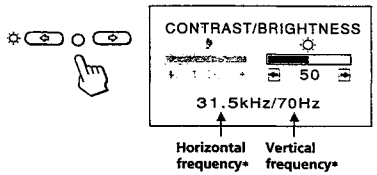
Control Panel



Adjusting the Picture Brightness

The adjustment data becomes the common setting for all input signals.

1 Press the ☼ ⬅/➡ button.
The "CONTRAST/BRIGHTNESS" OSD appears.



2 Press the ☼ ⬅/➡ buttons to adjust picture brightness.
⬅ . . . for less brightness
➡ . . . for more brightness

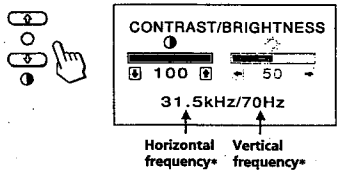
The "CONTRAST/BRIGHTNESS" OSD disappears 3 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

Adjusting the Picture Contrast

The adjustment data becomes the common setting for all input signals.

1 Press the ◑ ⬆/⬇ button.
The "CONTRAST/BRIGHTNESS" OSD appears.



2 Press the ◑ ⬆/⬇ buttons to adjust picture contrast.
⬆ . . . for more contrast
⬇ . . . for less contrast

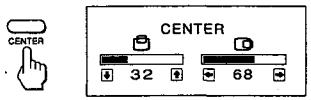
The "CONTRAST/BRIGHTNESS" OSD disappears 3 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

Adjusting the Picture Centering

The adjustment data becomes the individual setting for each input signal received.

1 Press the CENTER button.
The "CENTER" OSD appears.



2 **For vertical adjustment**
Press the ◑ ⬆/⬇ buttons.

⬆ . . . to move up
⬇ . . . to move down

For holizontal adjustment
Press the ☼ ⬅/➡ buttons.

⬅ . . . to move left
➡ . . . to move right

To erase the "CENTER" OSD, press the CENTER button again.
The "CENTER" OSD automatically disappears 10 seconds after you release the buttons.

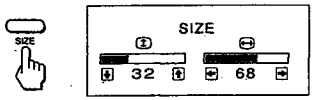
To reset, press the RESET button while the OSD is on.

* The horizontal and vertical frequencies for each input signal received appear on the "CONTRAST/BRIGHTNESS" OSD.

Adjusting the Picture Size

The adjustment data becomes the individual setting for each input signal received.

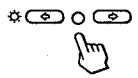
1 Press the SIZE button.
The "SIZE" OSD appears.



2 **For vertical adjustment**
Press the ◑ ⬆/⬇ buttons.

⬆ . . . to enlarge
⬇ . . . to diminish

For holizontal adjustment
Press the ☼ ⬅/➡ buttons.



⬅ . . . to diminish
➡ . . . to enlarge

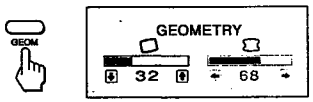
To erase the "SIZE" OSD, press the SIZE button again.
The "SIZE" OSD automatically disappears 10 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

Adjusting the Picture Rotation

The adjustment data becomes the common setting for all input signals.

1 Press the GEOM button.
The "GEOMETRY" OSD appears.



2 Press the ◑ ⬆/⬇ buttons.
⬆ . . . to rotate clockwise
⬇ . . . to rotate counterclockwise

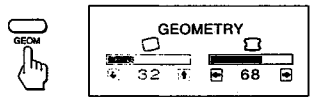
To erase the "GEOMETRY" OSD, press the GEOM button again.
The "GEOMETRY" OSD automatically disappears 10 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

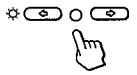
Adjusting the Pincushion

The adjustment data becomes the individual setting for each input signal received.

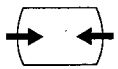
1 Press the GEOM button.
The "GEOMETRY" OSD appears.



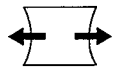
2 Press the ☼ ⬅/➡ buttons.



⬅ . . . to diminish the picture sides



➡ . . . to expand the picture sides



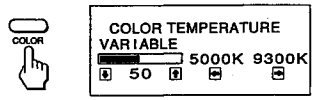
To erase the "GEOMETRY" OSD, press the GEOM button again.
The "GEOMETRY" OSD automatically disappears 10 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

Setting the Color Temperature

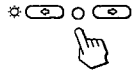
The selected color temperature becomes the common setting for all input signals.

1 Press COLOR button.
The "COLOR TEMPERATURE" OSD appears.



2 Adjust with the ☼ ←/→ and ◑ ↑/↓ buttons.

To select 5000K or 9300K
Press ☼ ←/→ buttons.
The selected color temperature is indicated in yellow.



← . . . to select 5000K
→ . . . to select 9300K

To obtain the desired color temperature between 5000K and 9300K
Press ◑ ↑/↓ buttons.

↑ . . . for higher temperature
↓ . . . for lower temperature

Your most recent adjusted color temperature will be recalled by pressing ◑ ↑/↓ button.

To erase the "COLOR TEMPERATURE" OSD, press the COLOR button again.
The "COLOR TEMPERATURE" OSD automatically disappears 10 seconds after you release the buttons.

To reset, press the RESET button while the OSD is on.

Resetting the Adjustment Data to Factory-preset Levels

To reset an adjustment item

Press the button of the adjustment item you want to reset, and then press the RESET button before the OSD (On Screen Display) disappears.

To reset all adjustment data at once (for the received signal)

Press the RESET button with something like a pen for 1 second when no OSD is shown.

To reset all adjustment data to factory-preset levels

Press and hold the RESET button for more than 2 seconds. All adjustment data are reset to factory-preset levels.

Troubleshooting

This section may help you isolate a problem and as a result, eliminate the need to contact technical support, allowing continued productivity.

No picture

➡ If neither the ⏻ POWER indicator nor the POWER SAVING indicator is lit
— Check that the power cord is properly connected.
— Check that the ⏻ POWER switch is in the "ON" position.
➡ If the POWER SAVING indicator is lit
— Check that your computer power switch is in the "ON" position.
— The monitor will recover when you press any key on the keyboard of the computer.
— Check that the video cable is properly connected.
— Ensure that no pins are bent or pushed in the HD15 connector of the cable.
— Check that the video card is seated completely in a proper bus slot.
— Check that the video sync signal is within that specified for the monitor.
— If using a Mac system, check that a proper HD15 - D15 adapter is provided to work correctly with your Mac.
— The monitor has a self-diagnose function. After turning the ⏻ POWER switch off, press and hold the ⏻ POWER switch for 8 seconds. If the ⏻ POWER indicator blinks, the screen turns white, and the color bars appear, then these conditions show that the monitor is operating normally. Contact the maker of the computer to which the monitor is connected.
➡ If the ⏻ POWER and the POWER SAVING indicators are both flashing
— There is a potential monitor failure. Contact your dealer.

If the message of "OUT OF SCAN RANGE" appears on the screen

➡ Check that the video sync signal is specified for the monitor.

Picture is scrambled

➡ Check your graphics board manual for the proper monitor setting on your Multiscan 100sf/200sf.
➡ Check this manual and confirm that the graphic mode and the frequency at which you are trying to operate is supported. Even within the proper range some video boards may have a sync pulse that is too narrow for the monitor to sync correctly.

Color is not uniform

➡ If the monitor is close to any potential sources of magnetic fields such as a speaker, or you turn the monitor while the ⏻ POWER switch is in the "ON" position, color may not be uniform. Trip the ⏻ POWER switch once to activate the Auto-degauss cycle*.

Picture is flickering

➡ If the refresh rate is not appropriate, the picture may flicker. Set the refresh rate of the non-interlace mode as high as possible on the computer. For detailes on how to set the refresh rate, consult the dealer of your computer or video board.

Screen image is not centered or sized properly

➡ Adjust the "CENTER," "SIZE," or "GEOMETRY" on the OSD (pages 5, 6).
➡ Some video modes do not fill the screen to the edge of the monitor. There is no single answer to solve the problem. There is a tendency to have this problem on higher refresh timings and Macintosh video timings.

Picture is fuzzy

➡ Adjust the "CONTRAST" and "BRIGHTNESS" on the OSD (page 5). We have come across several brands of SVGA boards that have an excessive video output level which creates a fuzzy picture at max contrast.
➡ Trip the ⏻ POWER switch once to activate the Auto-degauss cycle*.

Picture bounces or has wavy oscillations

➡ Isolate and eliminate any potential sources of electric or magnetic fields. Common causes for this symptom are electric fans, fluorescent lighting, laser printers, and so on.
➡ If you have another monitor close to this monitor, increase the distance between them to reduce the interference.
➡ Try plugging the monitor into a different AC outlet, preferably on a different circuit.
➡ Try the monitor on a completely different computer in a differnt room.

Picture appears to be ghosting

➡ Eliminate the use of video cable extension cables and/or video switch boxes if this symptom occurs. Excessive cable length or weak connections can produce this symptom.

A fine horizontal line (wire) is visible

➡ This wire stabilizes the vertically striped Aperture Grille (page 8). This Aperture Grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.

Wavy or elliptical (moire) pattern is visible

➡ Due to the relationship between resolution, monitor AG pitch and the pitch of some image patterns, certain screen backgrounds, especially gray, sometimes show moire. This can only be eliminated by changing your desktop pattern.

Just after turning the monitor on, a "boon" noise is heard

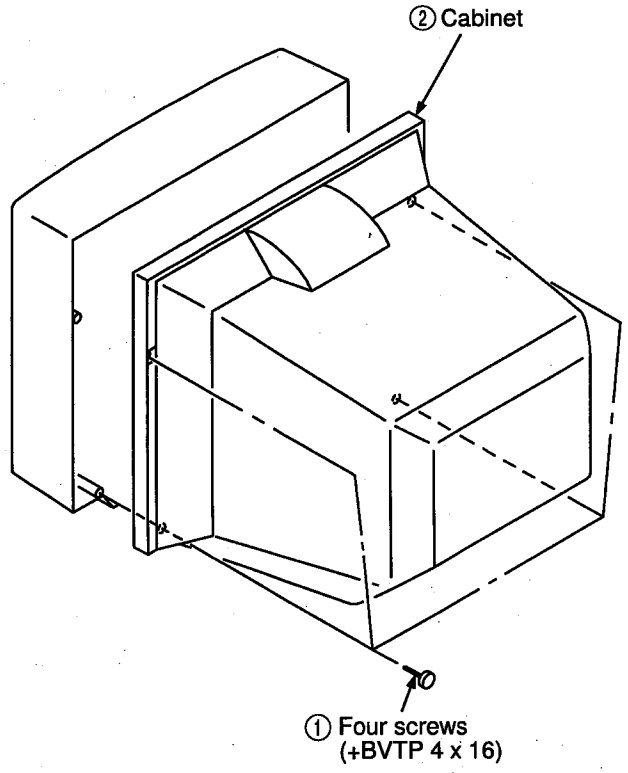
➡ Just after turning the monitor on, a noise may be heard for about 3 seconds.
This noise is not failure, it is caused by the auto-degauss cycle*.

* The Auto-degauss function demagnetizes the metal frame of the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

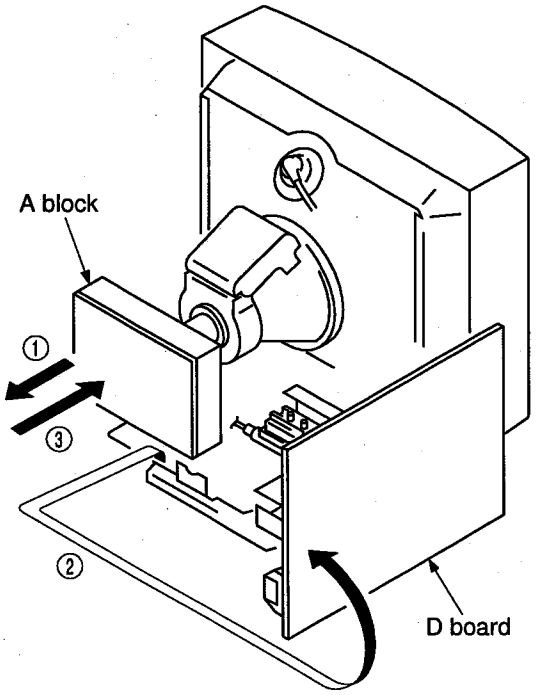
• If the problem persists, call your authorized Sony dealer from a location near your monitor.
• Note the model name and the serial number of your monitor. Also note the make and name of your computer and video board.

SECTION 2
DISASSEMBLY

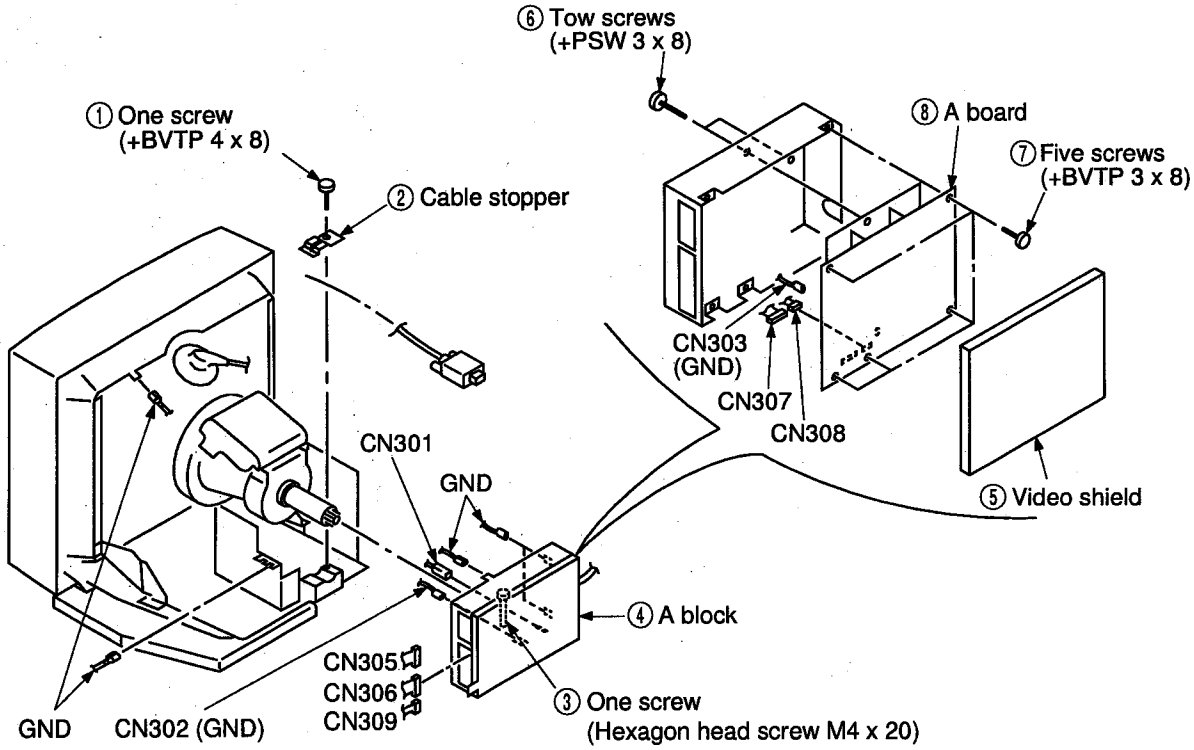
2-1. CABINET REMOVAL



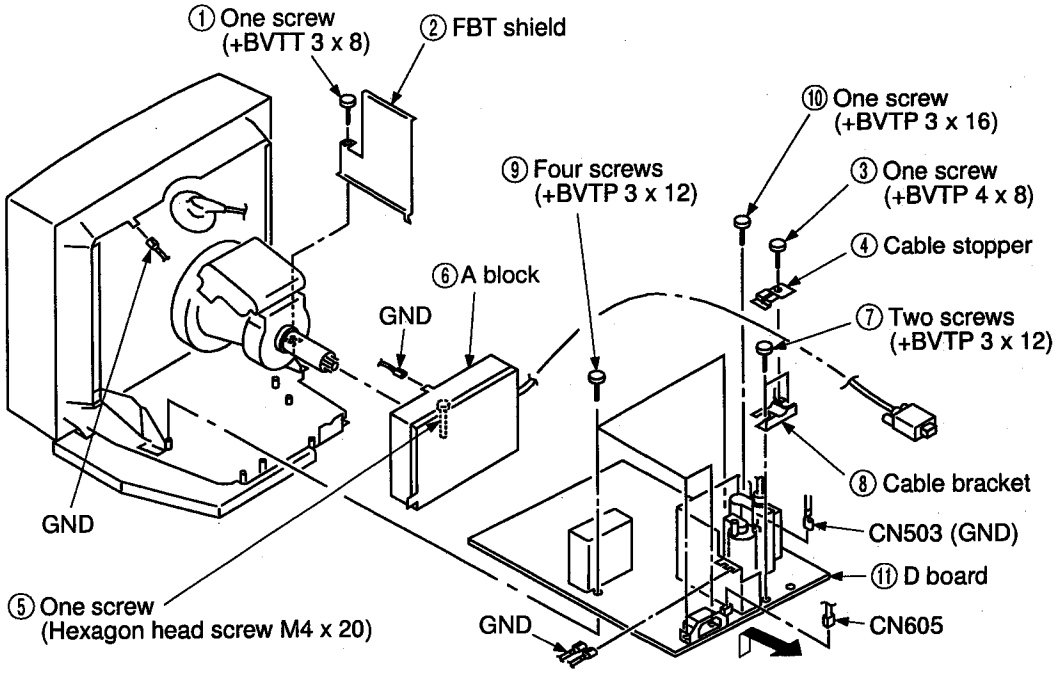
2-2. SERVICE POSITION



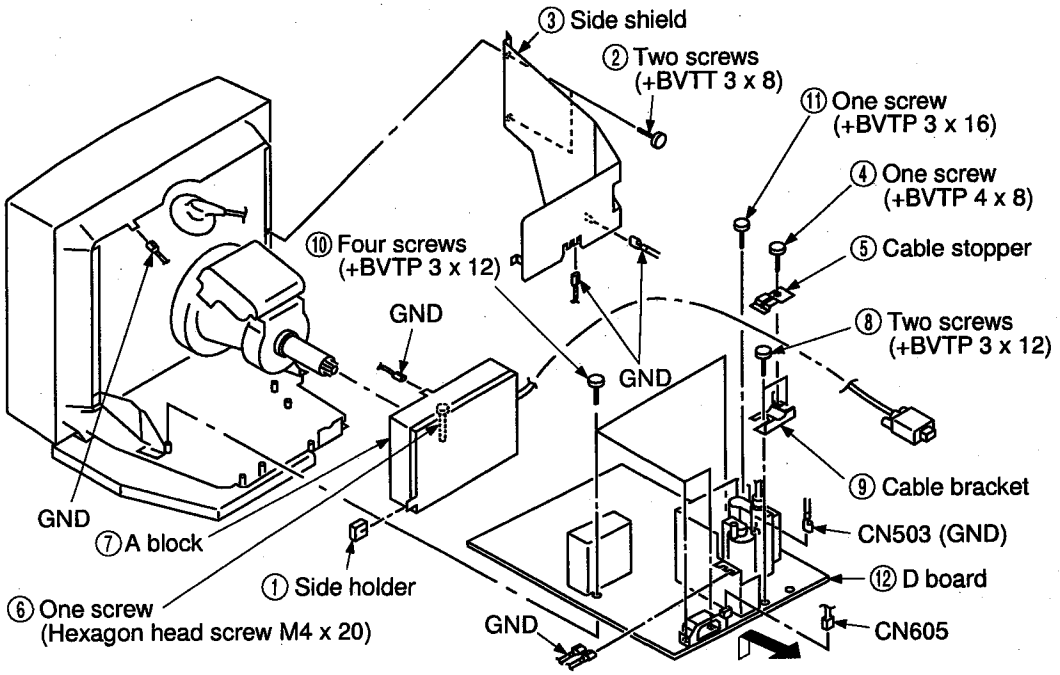
2-3. A BOARD REMOVAL



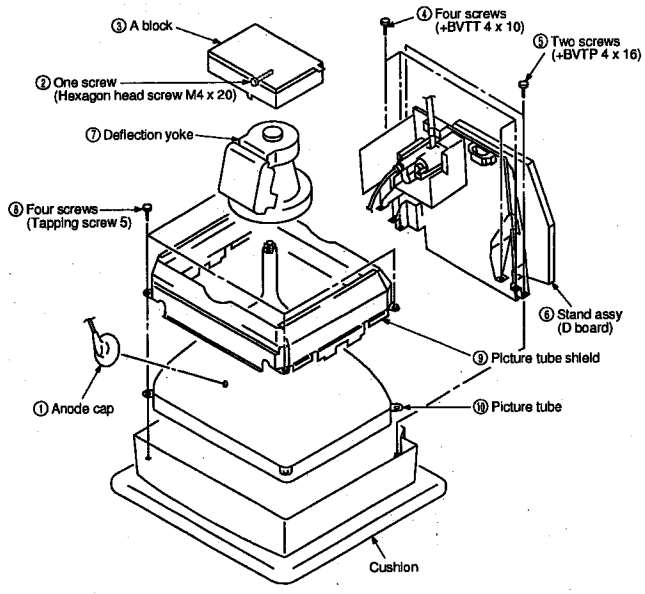
2-4-1. D BOARD REMOVAL (CPD-200SF)


① One screw (+BVTT 3 x 8)
② FBT shield
⑩ One screw (+BVTP 3 x 16)
⑨ Four screws (+BVTP 3 x 12)
③ One screw (+BVTP 4 x 8)
④ Cable stopper
⑥ A block
GND
⑦ Two screws (+BVTP 3 x 12)
⑧ Cable bracket
GND
CN503 (GND)
⑪ D board
⑤ One screw (Hexagon head screw M4 x 20)
GND
CN605

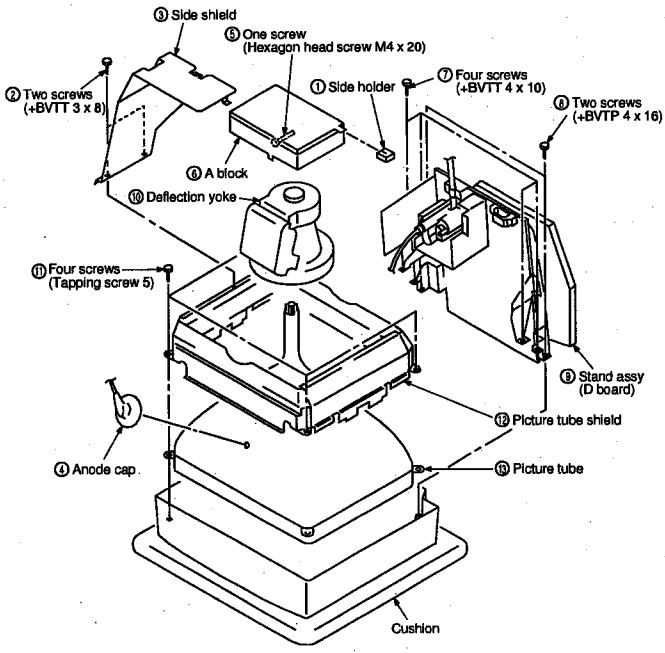
2-4-2. D BOARD REMOVAL (CPD-200SFT)



2-5-1. PICTURE TUBE REMOVAL (CPD-200SF)


③ A block
② One screw (Hexagon head screw M4 x 20)
④ Four screws (+BVTT 4 x 10)
⑤ Two screws (+BVTP 4 x 16)
⑦ Deflection yoke
⑧ Four screws (Tapping screw 5)
⑥ Stand assy (D board)
⑨ Picture tube shield
① Anode cap
⑩ Picture tube
Cushion

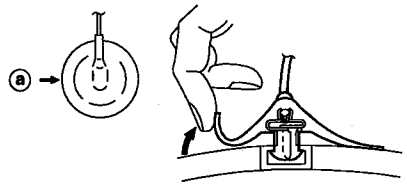
2-5-1. PICTURE TUBE REMOVAL (CPD-200SFT)


③ Side shield
⑤ One screw (Hexagon head screw M4 x 20)
② Two screws (+BVTT 3 x 8)
① Side holder
⑦ Four screws (+BVTT 4 x 10)
⑧ Two screws (+BVTP 4 x 16)
⑥ A block
⑩ Deflection yoke
⑪ Four screws (Tapping screw 5)
⑨ Stand assy (D board)
⑫ Picture tube shield
④ Anode cap
⑩ Picture tube
Cushion

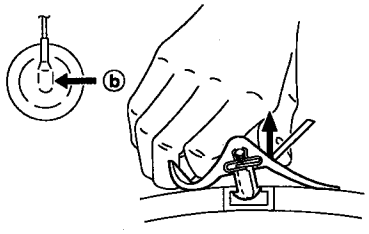
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

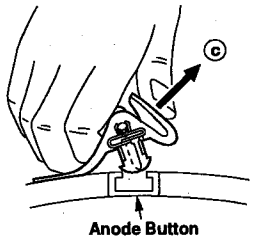
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



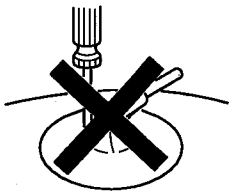
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

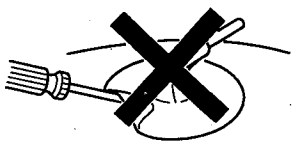


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (⧓)
HV ADJ	RV501

	Part Replaced (◪)
HV Regulator Circuit	D board IC501, Q505, Q510, D505, D512, D516, C506, C526, C531, C532, C535, C558, R512, R532, R535, R536, R537, R538, RV501, T501
HV Protector Circuit	D board IC701, D800, D801 C709, C803, C804, R706, R800, R804, R808, T501 • Mounted D board
Beam Current Protector Circuit	D board IC701, IC901, Q801, D517, D802, C537, C806, C807, C912, R539, R540, R541, R542, R809, R810, R811, R812, R816, R933, T501 • Mounted D board

※ Confirm one minute later turning on the power.

● HV Protector Check

Confirm that the HV protector circuit works and CRT screen disappearing when apply the voltage as shown below between Anode of D800 on D board and GND using an external DC Power Supply.

- Standard voltage : Anode of D800 less than 28.90 V DC

Check Condition

- Input voltage : 120 V AC
- Input signal : Dot at 60.0 kHz (VESA 1024 x 768)
- Beam control : BRT and CONT → Minimum

● Beam Protector Check

(1) Software logic circuit

1) Confirm that the Beam current protector by software logic works and CRT screen disappearing when connect 150 kΩ resister in parallel with R542 on D board.

(2) Hardware logic circuit

1) Using an external DC Power Supply, applying voltage of 5.00 V to between ⑰ pin of IC901 D board and GND.
2) Confirm that the Beam current protector circuit by hardware logic works and CRT screen disappearing when shorted to between ⑪ pin of T501 and GND.

Check Condition

- Input voltage : 120 V AC
- Input signal : All white at 60.0 kHz (VESA 1024 x 768)
- Beam control : CONT and BRT → Maximum

● B+ Voltage Check

Standard voltage : 169.0 ± 1.0 V DC

Check Condition

- Input voltage : 120 V AC

  Note : Use NF power supply or make sure that distortion factor is 3% or less.
- Input signal : Cross hatch at 80.0 kHz
- Beam control : CONT, BRT → Maximum

SECTION 4
ADJUSTMENTS

● Landing Rough Adjustment

1. Enter the full white signal.
2. Set the contrast to "CONT"=255.
3. Make the screen monogreen.

Note: Off the outputs from R ch and B ch of SG.

4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Moving the DY forward, adjust so that an entire screen becomes monogreen.
6. Adjust the tilt of DY, and fix lightly with a clamp.

Note: "TILT" shall be set at 0.

● Landing Fine Adjustment

1. Put the set inside the Helmholtz coil.
2. Input the single green signal and set the CONT control to MAX.

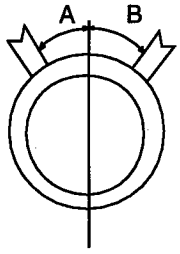
Note: Set to Σ1k=300 μA with the signal green signal, and after aging for about 30 minutes, adjust so that it is exactly this value.

3. Demagnetize the CRT surface with the hand degausser , and perform auto degaussing.

Note: Adjust in s non-magnetic field.

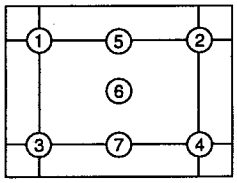
4. Attach the wobbling coil to the designated part of the CRT neck.
5. Attach the sensor of the landing adjustment unit on the CRT surface.
6. Adjust the DY position and purity, and the DY tilt, and landing of the center and 4 corners with the landing checker.

Purity



A = B

<Specification>

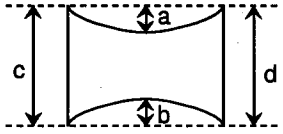


Adjust the green of corners ① to ④, and center ⑥ to ±5 μm, and red and blue to within ±7 μm of green, and the difference between red and blue to within ±10 μm.
Adjust the green of ⑤ and ⑦ to within ±10 μm, and red and blue to within ±7 μm of green, and the difference between red and blue to within ±10 μm.

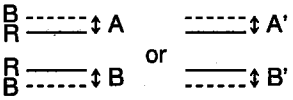
(Set each corner to 1st frame of the crosshatch.)

7. For the up/down and left/right swing, swing the DY and insert a wedge so that the up and down pins are equal at the top and bottom and the horizontal trapezoid is equal at the left and right. Insert the wedge firmly so that the DY does not shake.

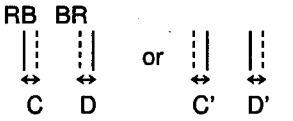
Signals: Inverted crosshatch signal (monochrome G)
and crosshatch signals (B and R)



"a" and "b" must be equal, and "c" and "d" must be almost equal.

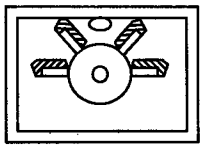


A and B, or A' and B' must be almost equal.



C and D, or C' and D' must be almost equal.

<How to drive in wedges>



Drive in wedges as shown in the left figure, and apply RTV as shown with hatched lines.

← As viewed from a neck side

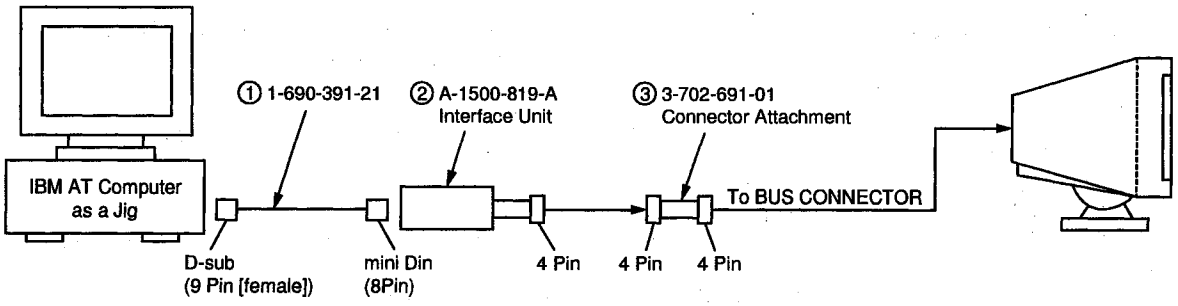
8. Check the landing of each corner, and if they do not satisfy the specification, paste a Disk-Mg onto the funnel and adjust.

Note:
(1) Do not paste more than 2 magnets to one corner.
(2) Paste within 80 to 100 mm from the DY on the diagonal line of the magnet.
(3) If using the magnet, be sure to demagnetize with the hand degausser and check.

9. Remove the sensor and wobbling coil.
10. Switch the signal to R.G.B., and check that each color is pure.
11. Check that the DY is not tilting, and fix the purity Mg with a white pen.
12. Fasten DY with screw.

Note: Torque 20 ±2kg·cm

Connect the communication cable of the computer to the connector located on the D board on the monitor. Run the service software and then follow the instruction.



*The parts above (① ~ ③) are necessary for DAS adjustment.

● Convergence Rough Adjustment

1. Enter the white crosshatch signal (white lines on black).
2. Adjust roughly the horizontal and vertical convergence at four-pole magnet.
3. Adjust roughly HMC and VMC at six-pole magnet.
   Standard: ± 0.1mm (In the center of screen)
4. Make rough adjustment of the H direction convergence by usig H. STAT VR (RV001 of A board).

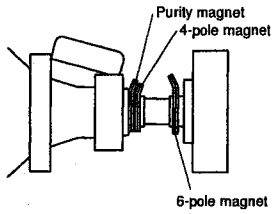


Fig. 1

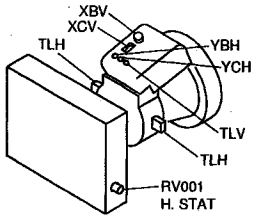
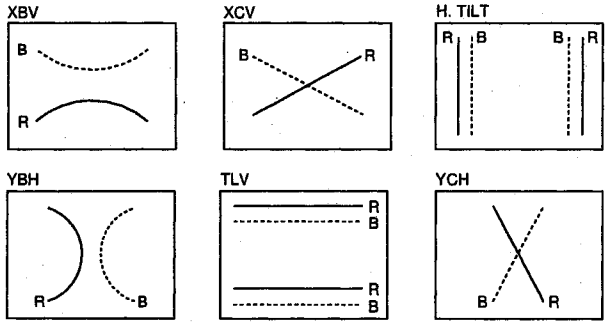


Fig. 2



<6 Pole Magnet>

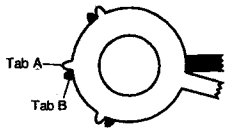


Fig. 3

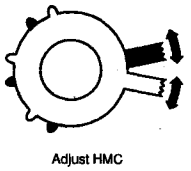


Fig. 4

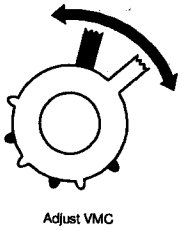
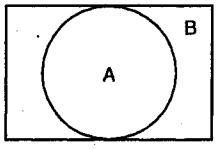


Fig. 5

● Convergence Specification

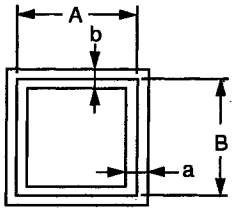


MODE	All mode
A	0.24 mm
B	0.32 mm

● White Balance Adjustment Specification

(1) 9300K
x = 0.283 ± 0.005
y = 0.298 ± 0.005
(2) 5000K
x = 0.345 ± 0.005
y = 0.358 ± 0.005

● Vertical and Horizontal Position and Size Specification

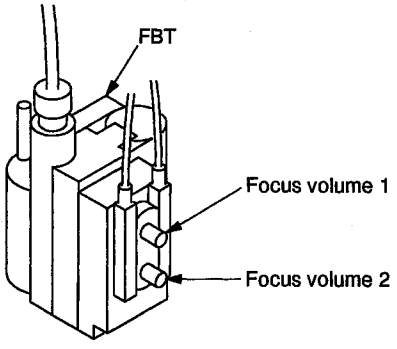


MODE	All mode
A	312 mm
B	234 mm

a ≦ 2.2 mm
b ≦ 2.2 mm

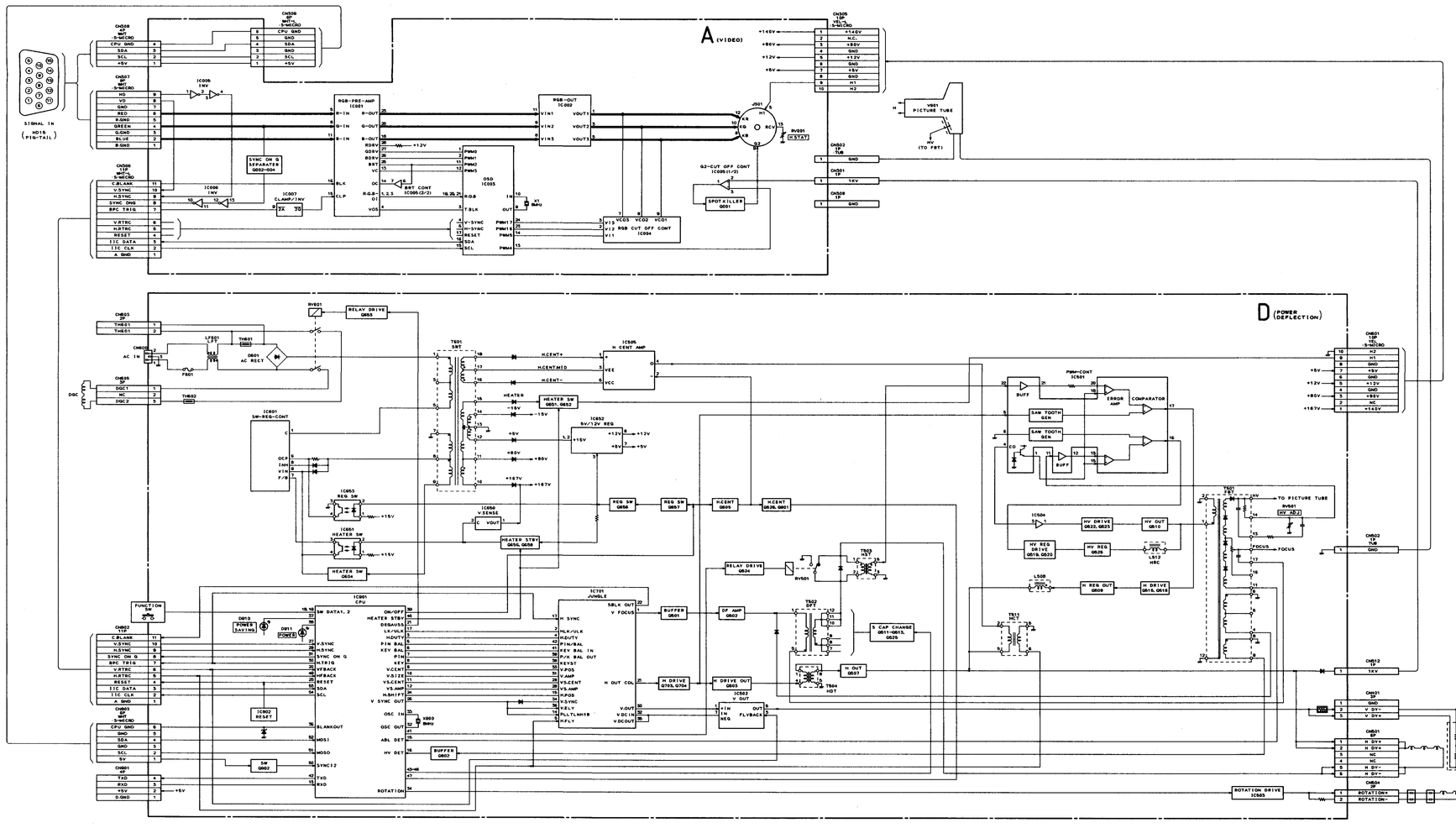
● Focus adjustment

Adjust the focus volume 1 and 2 for the optimun focus.

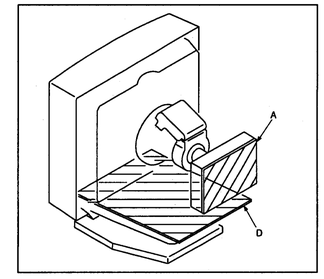


SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM (with FRAME SCHEMATIC DIAGRAM)



5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF
  50 V or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)
- All resistors are in ohms.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⏚ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by ⊞ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 10)
- When replacing the part in below table, be sure to perform the related adjustment.

	Part replaced (⊞)
HV ADJ	RV501

	Part replaced (◪)	
HV Regulator Circuit	D board	IC501, Q505, Q510, D512, D516, C506, C526, C531, C532, C535, C558, R512, R532, R535, R536, R537, R538, RV501, T501
HV Protector Circuit	D board	IC701, D800, D801 C709, C803, C804, R706, R800, R808, T501 • Mounted D board
Beam Current Protector Circuit	D board	IC701, IC901, Q801, D517, D802, C537, C806, C807, C912, R539, R540, R541, R542, R809, R810, R811, R812, R816, R933, T501 • Mounted D board

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

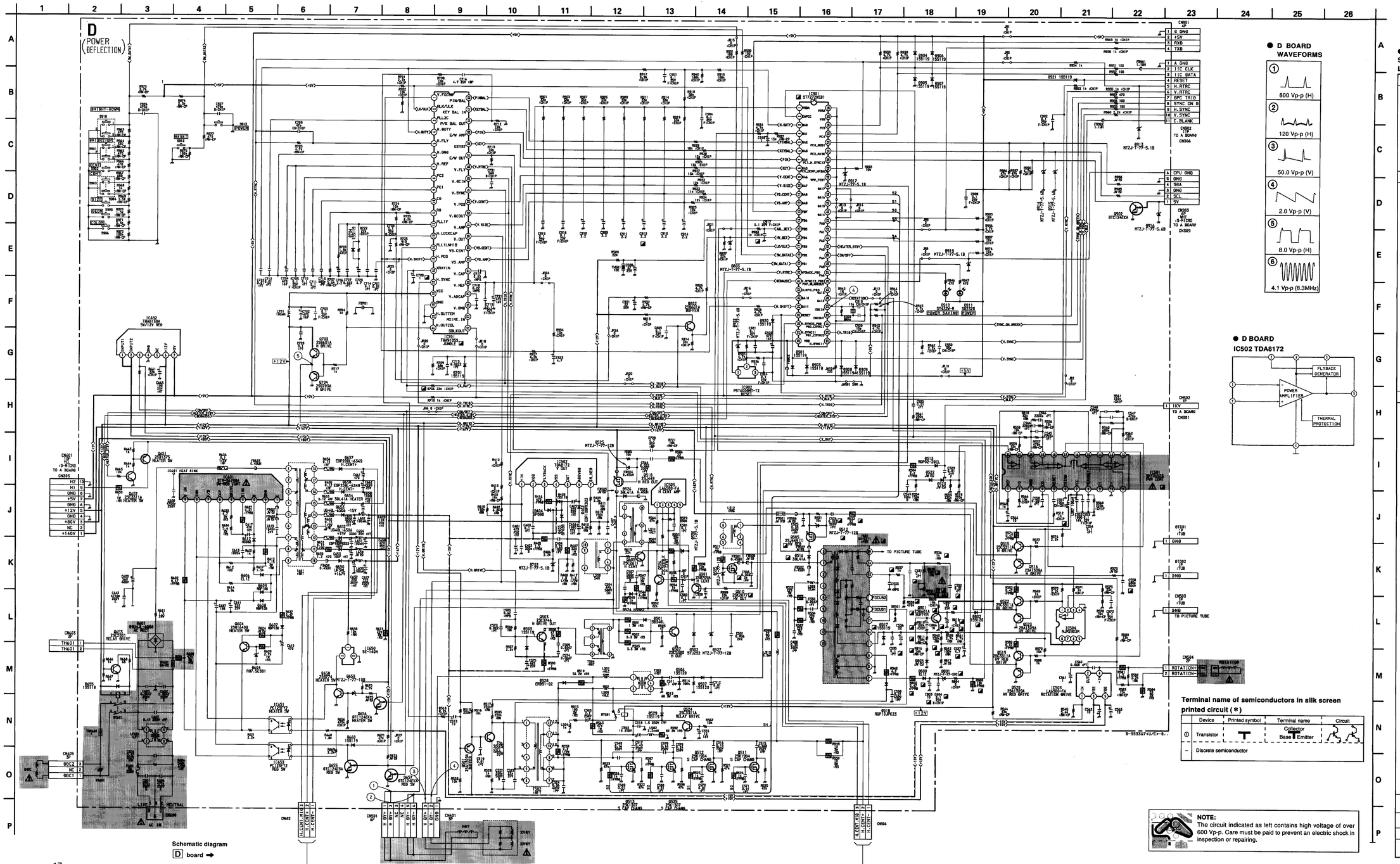
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ✱ : Can not be measured.
- Circled numbers are waveform references.
- ——— : B + bus.
- ▬ ▬ ▬ : B – bus.

(1) Schematic Diagram of D Board

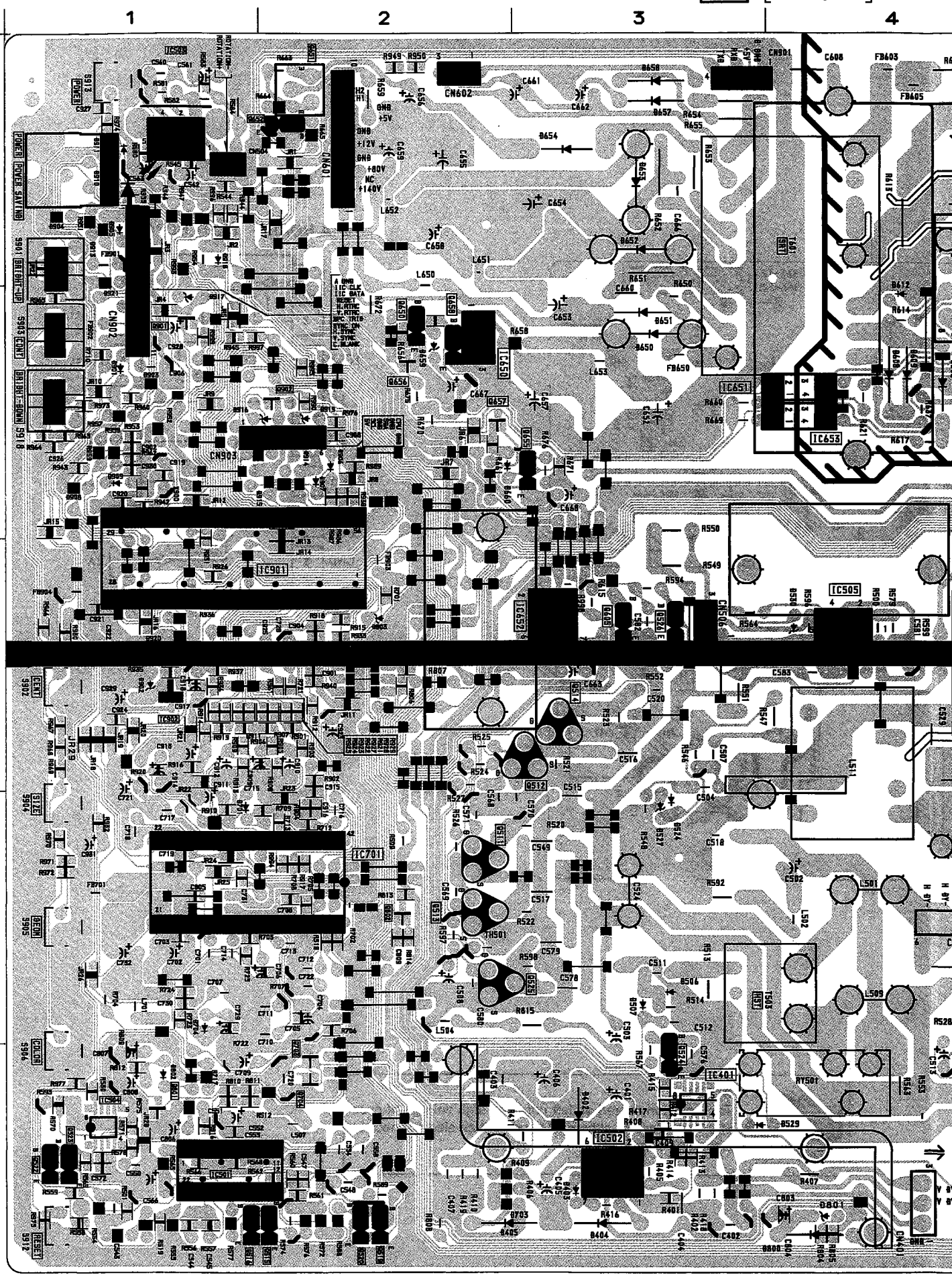
● D BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]
IC501	1	5.9
	2	8.9
	3	0
	4	6.9
	5	0.6
	8	6.9
	11	6.0
	12	5.9
	13	5.9
	14	4.6
	15	5.9
	16	9.2
	17	8.7
	18	5.9
	19	5.7
	20	5.9
	21	7.8
	22	7.8
IC502	1	1.4
	3	−14.9
	5	0.3
	6	14.7
	7	1.4
IC503	1	1.4
	2	1.4
	4	0.8
IC504	1	10.4
	2	2.8
	3	6.9
IC505	1	47.4
	2	47.2
	3	40.6
	4	47.4
	5	57.0
IC601	1	125.5
	2	0.1
	3	0
	4	1.5
	5	2.6
	6	0
	7	0.3
	8	1.2
	9	7.6
IC650	1	141.0
	2	13.3
IC651	1	14.3
	2	13.3
	3	0.3
	4	7.1
IC652	3	4.3
IC653	1	15.3
	2	14.6
	3	0.1
	4	1.2
IC701	1	5.5
	2	5.1
	3	3.2
	4	5.0
	5	−0.4
	6	0
	7	8.0
	8	1.6
	9	6.4
	10	3.5
	11	3.5
	12	3.5
	13	8.0
	14	0.1
	15	4.2
	16	6.7
	17	0.7
	21	6.5
	22	4.6
	25	5.1
	26	8.1
	27	3.5
	28	3.6
	29	3.8
	30	3.5
	31	4.4
	32	3.6
	33	4.5
	34	0.1
	35	3.6
	36	0.1
	37	3.0
	38	4.1
	39	4.3
	40	4.1
	41	4.1
	42	4.0
IC901	1	8.1
	2	4.0
	3	1.7
	4	2.7
	5	1.7
	6	2.5
	7	2.8
	8	2.4
	9	3.2
	10	3.1
	11	2.3
	12	1.9
	13	5.1
	14	2.8
	15	4.0
	16	4.2
	17	5.1
	18	5.0
	19	4.8
	20	−0.6
	21	0
	23	5.0
	24	2.4
	25	5.1
	26	0.1
	27	4.2
	29	4.1
	30	0.7
	31	0.7
	32	1.9
	33	2.3
	34	2.3
	35	0
	36	3.9
	37	3.7
	38	0.5
	39	4.3
	40	3.3
	41	2.9
	42	5.1
	43	5.1
	44	5.1
	45	0
	46	5.1
	47	2.4
	49	0.1
	50	5.1
	51	4.4
	52	*
	53	4.8
	54	4.7
IC902	2	5.1
Q501	B	0.6
	E	1.2
Q502	B	1.2
	C	182.6
	E	0.6
Q503	B	−15.2
	C	−0.1
	E	−15.2
Q505	G	167.3
	D	40.3
Q507	B	−0.9
	C	48.1
Q510	G	9.9
	D	40.2
Q511	G	5.1
	D	0
Q512	G	0
	D	14.2
Q513	G	5.1
	D	0
Q514	G	0
	D	14.7
Q515	B	8.6
	C	12.2
	E	8.4
Q516	B	8.7
	E	8.4
Q518	G	166.9
	D	48.7
Q519	B	9.2
	C	12.2
	E	9.0
Q520	B	9.2
	E	9.0
Q522	B	10.4
	E	9.9
Q523	B	10.4
	E	9.9
Q524	B	0.7
	C	0.3
Q525	G	5.1
	D	0
Q526	B	3.0
	C	49.8
	E	2.5
Q604	B	7.1
	C	20.6
	E	7.6
Q605	B	0
	C	50.0
Q651	B	7.0
	C	6.5
	E	7.3
Q652	B	0.7
	C	0
Q653	B	0
	C	12.2
Q655	B	0
	C	14.5
Q656	B	3.3
	C	0.1
Q657	B	4.3
	C	0
Q658	B	0
	C	13.3
Q703	B	6.5
	E	6.5
Q704	B	6.5
	E	6.5
Q801	B	0.6
	C	0.1
Q802	B	6.9
	E	6.3
Q901	B	2.4
	E	3.0
Q902	B	0
	C	5.1

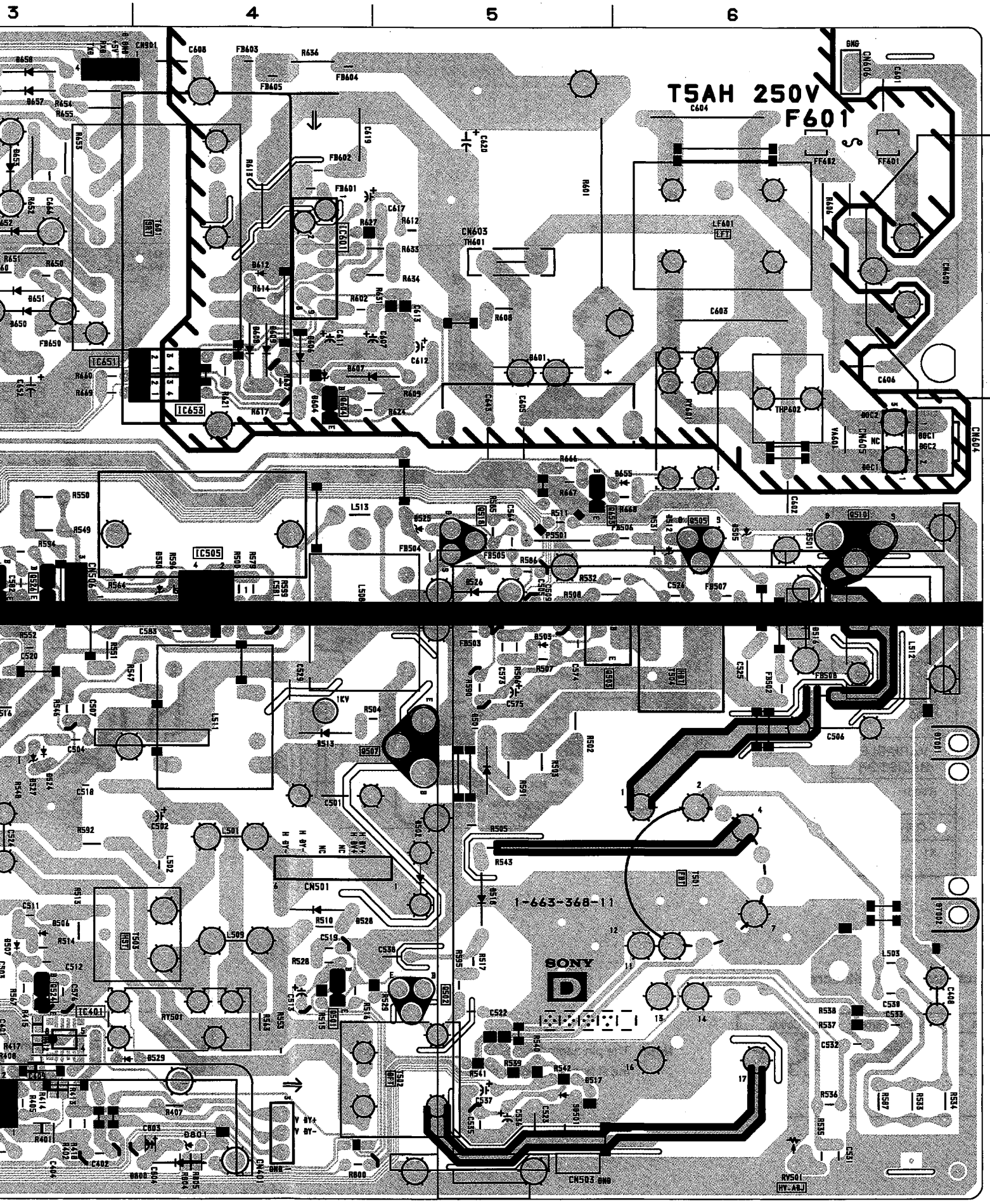


— D Board —

D [POWER DEFLECTION]



D [POWER DEFLECTION]



● A BOARD SEMICONDUCTOR LOCATION

IC	
IC001	B–2
IC002	A–2
IC003	A–1
IC004	B–3
IC005	A–1
IC006	B–1
IC007	B–1

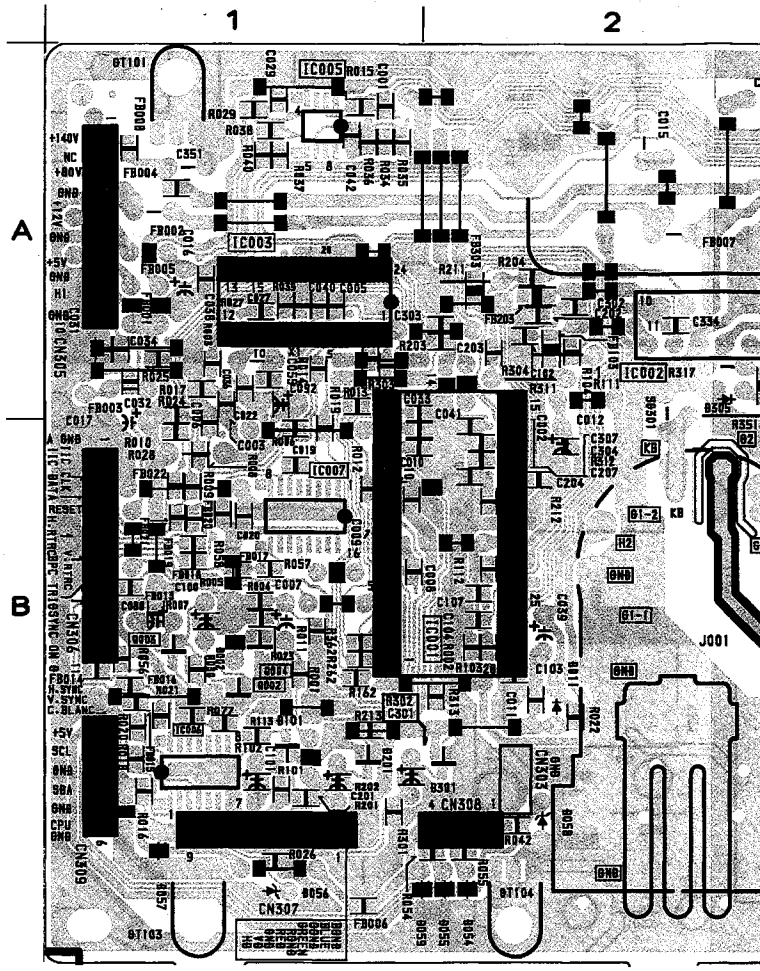
TRANSISTOR		
Q001	B–3	*
Q002	B–1	①
Q003	B–1	①
Q004	B–1	①

DIODE		
D002	B–1	*
D011	B–2	–
D014	B–3	–
D058	B–2	–
D101	B–1	–
D104	A–3	–
D105	A–3	–
D106	B–3	–
D201	B–1	–
D204	A–3	–
D205	A–3	–
D206	A–3	–
D301	B–2	–
D304	A–3	–
D305	A–2	–
D306	A–3	–

VARIABLE RESISTOR	
RV001	B–3

CRYSTAL	
X1	A–1

— A Board —

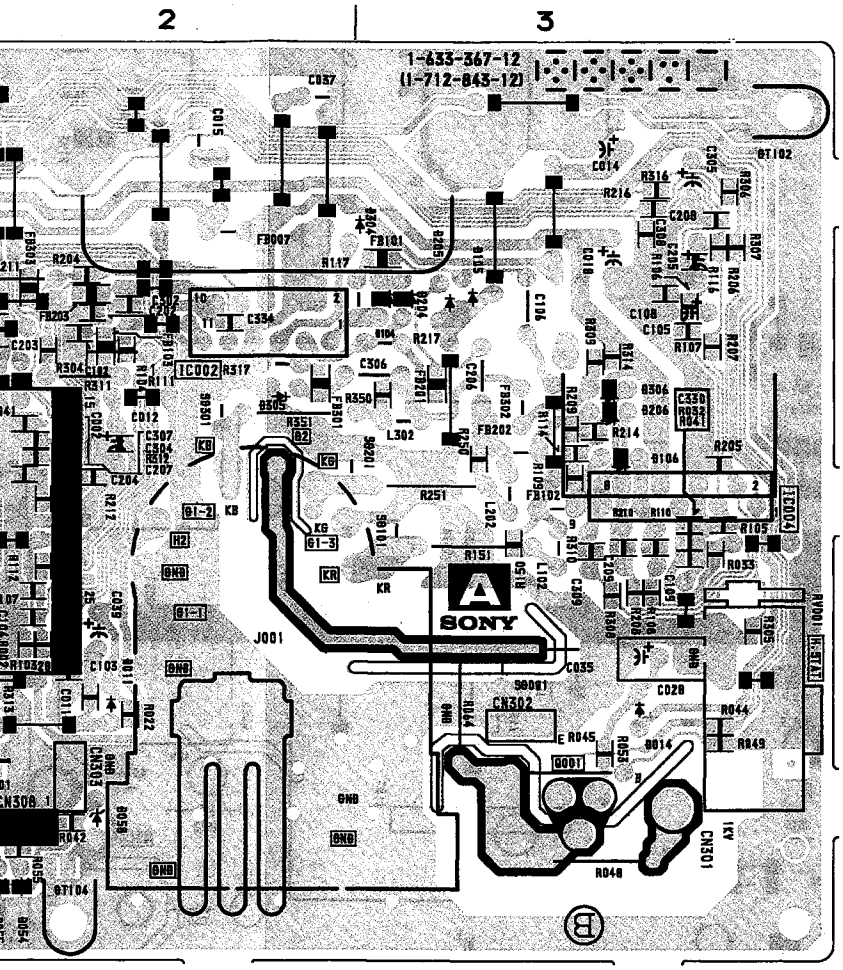


Terminal name of semiconductors in silk screen printed circuit (*)

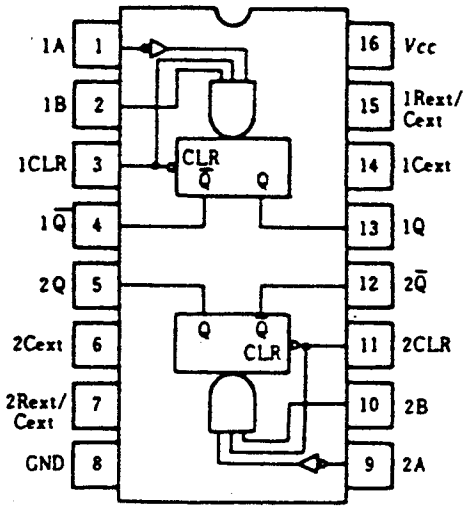
	Device	Printed symbol	Terminal name	Circuit
①	Transistor	T	Collector / Base T Emitter	
–	Discrete semiconductor			

Note: The pin name "H2" of "J001" (CRT socket) on the A board is wrong, and it is "H1" in truth.

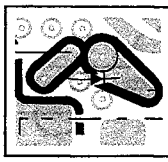
A [VIDEO]



● A BOARD IC007 HD74HC123AFP

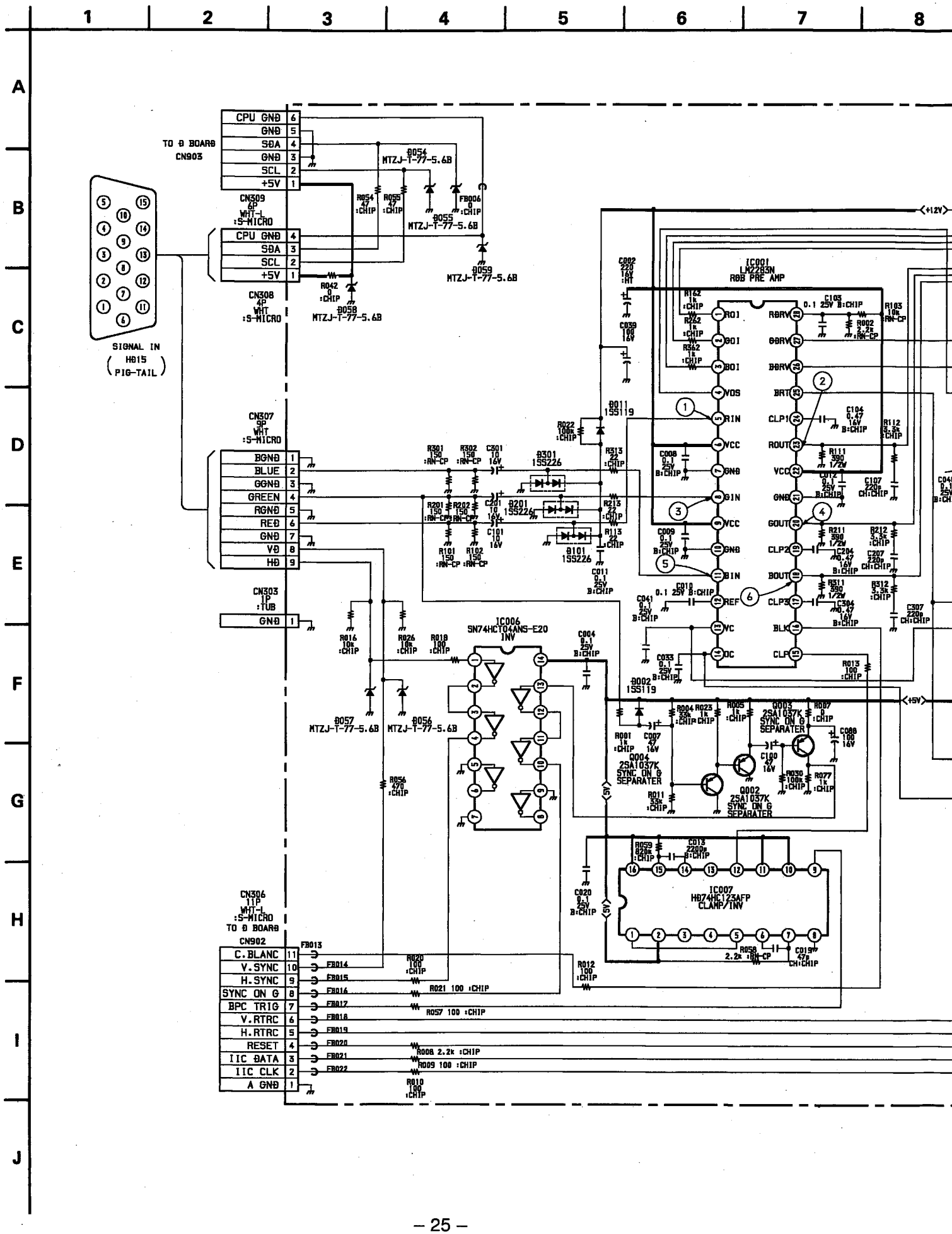


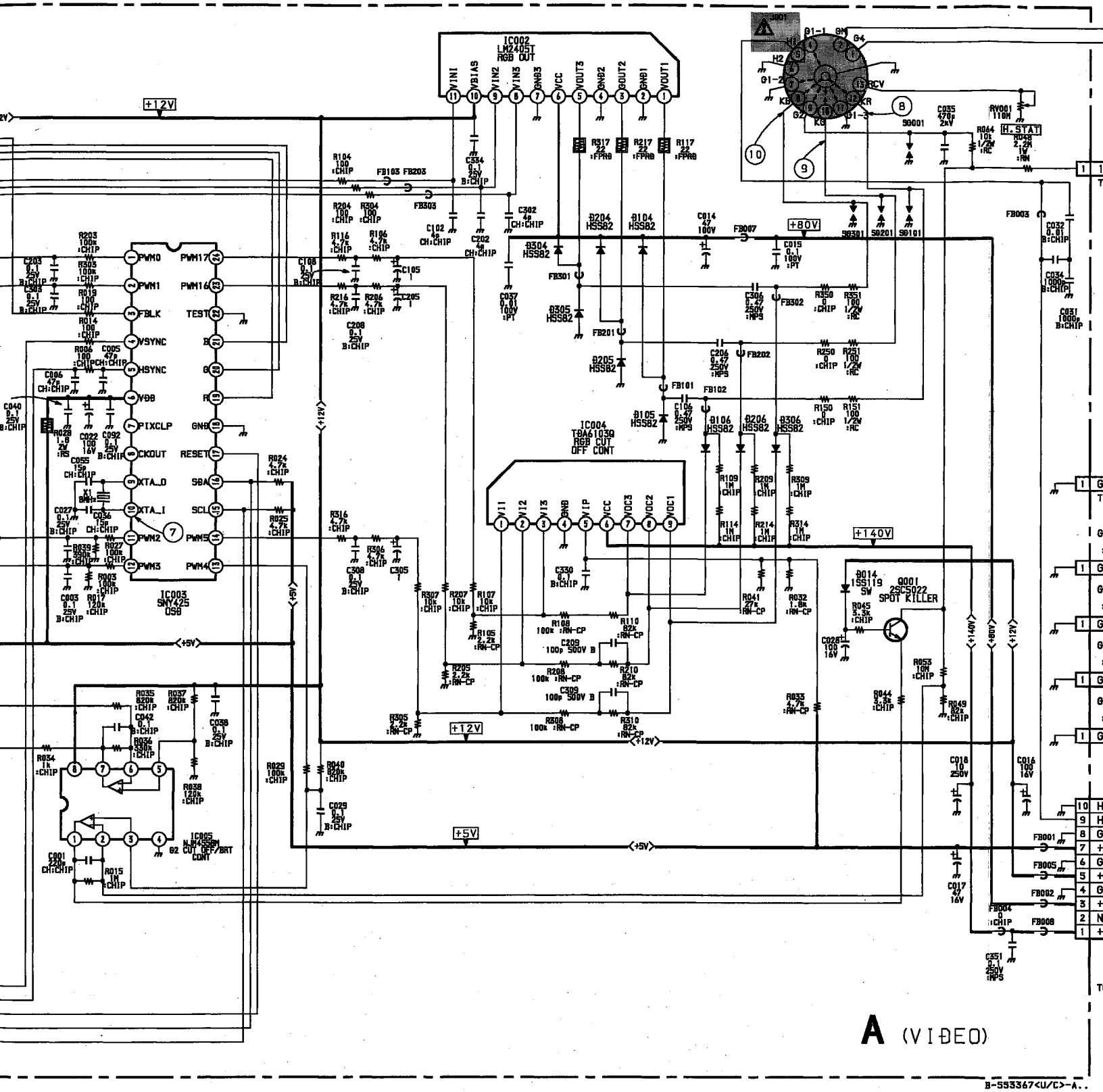
(CRT socket) on
s "H1" in truth.



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

(2) Schematic Diagram of A Board

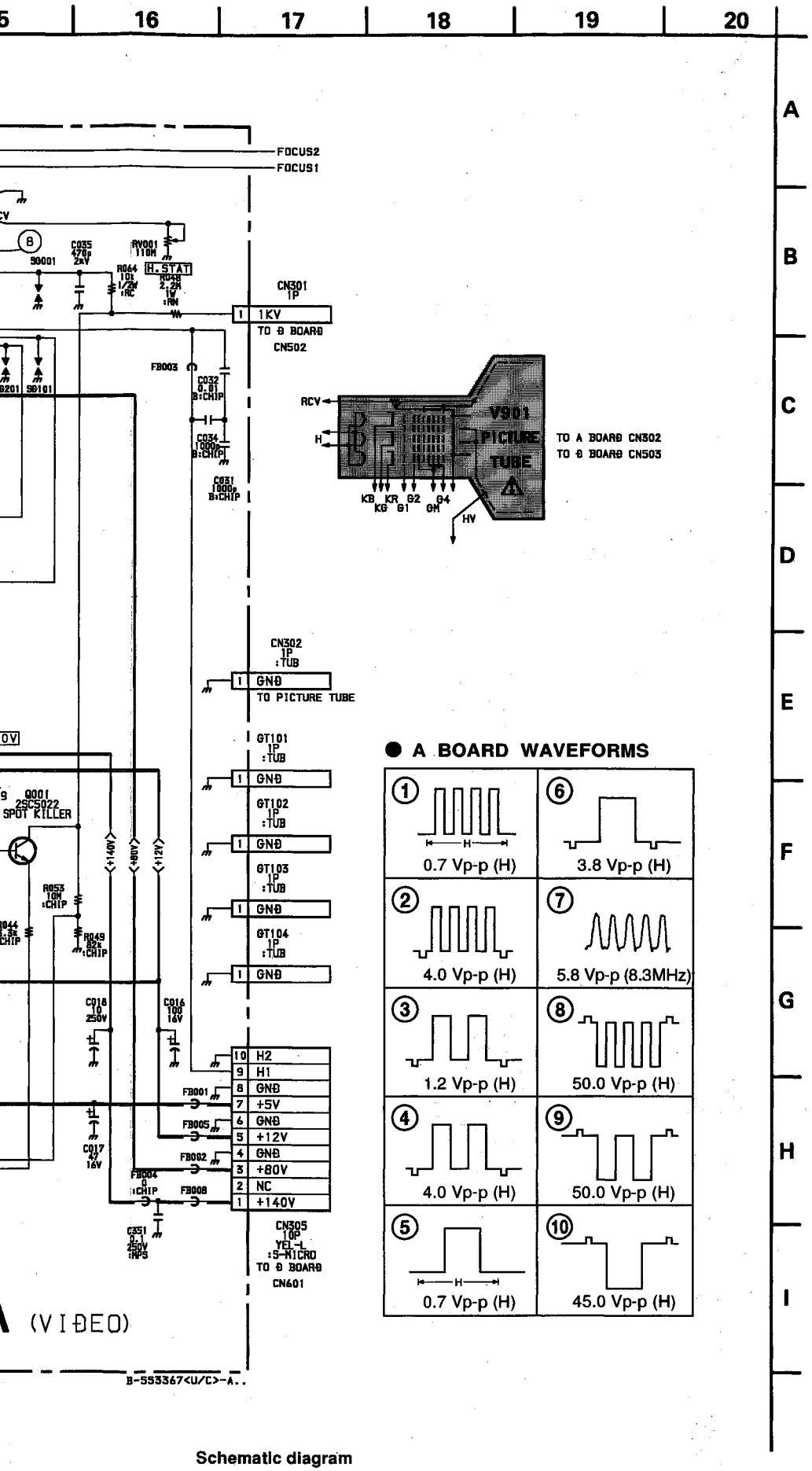




B-553367<U/C>-A..

Schemat

A



● A BOARD WAVEFORMS

● A BOARD VOLTAGE LIST

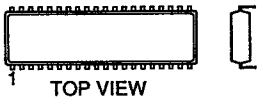
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC001	1	0	IC005	1	10.3
	2	0		2	3.3
	3	0		3	3.3
	4	0		5	1.6
	5	2.3		6	1.6
	8	2.3		7	1.7
	11	2.3	IC006	1	3.7
	12	2.0		2	0.6
	13	2.4		3	0.6
	14	1.7		4	4.5
	15	5.1		6	5.1
	16	4.6		8	5.1
	17	5.5		10	0.7
	18	2.1		11	4.5
	19	5.5		12	4.5
	20	2.1		13	0.7
	23	2.2	IC007	1	0.1
	24	5.4		3	4.7
	25	1.1		5	0.1
	26	1.8		6	0
	27	2.0		7	5.1
	28	2.2		9	0.7
IC002	1	52.0		12	5.1
	3	52.9		13	4.6
	5	53.9		14	0
	8	2.0		15	1.4
	9	2.1	Q001	B	11.7
	11	2.2		C	337.0
IC003	1	2.1		E	11.2
	2	1.8	Q002	B	3.0
	3	0		E	3.7
	4	–0.5	Q003	B	4.9
	5	–0.1		C	0.7
	9	2.4	Q004	B	2.6
	10	2.2		E	3.0
	11	1.3	J001	KR	77.3
	12	3.5		KG	82.1
	13	2.2		KB	71.9
	14	3.5		G2	337.0
	15	4.7		H1	6.4
	16	4.8			
	17	5.1			
	19	0			
	20	0			
	21	0			
	23	2.5			
	24	2.9			
IC004	1	1.2			
	2	1.2			
	3	1.2			
	5	1.2			
	7	99.9			
	8	104.1			
	9	92.9			

Schematic diagram

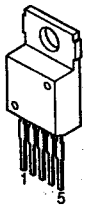
← A board

5-4. SEMICONDUCTORS

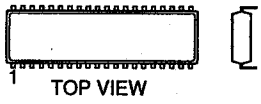
HD74HC123AFP



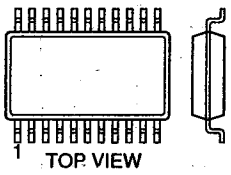
LA6500-FA



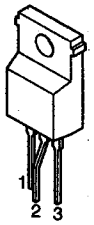
LM2283N



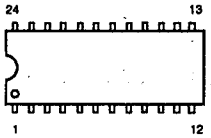
LM2903M
NJM2903M-T2
NJM4558M
µPC4558G2



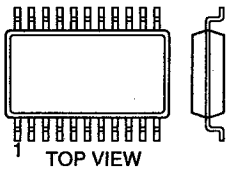
SE-140N



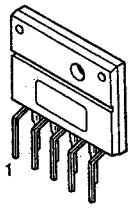
SNY425



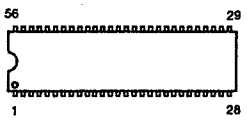
SN74HCT04ANS



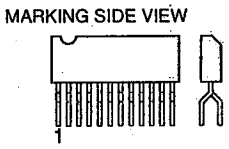
STR-S6708A



ST7272N5B1/CKO



TDA6103Q/N3



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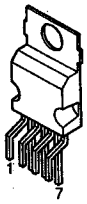

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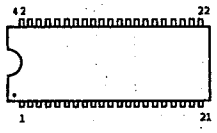

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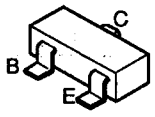
2SA1162-G
2SB709A-QRS-TX
2SD601A-Q
2SD601A-QRS-TX



DTS124ESA
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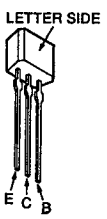
2SA1309A-QRSTA
2SC2785-HFE
2SC3311A-QRSTA



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2SC5022-02
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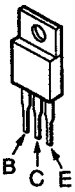
2SJ449(2)



IRFPG50LF21
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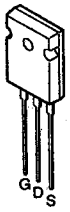

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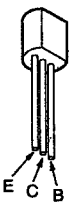

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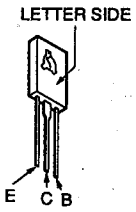

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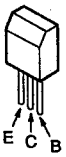

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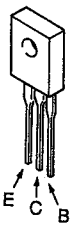

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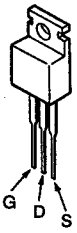

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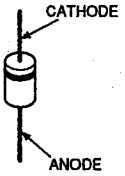
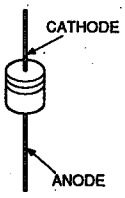
RGP10JPKG23
RH-1A



EGP10GPKG23
MTZJ-T-77-10B
MTZJ-T-77-12B
MTZJ-T-77-20C
MTZJ-T-77-5.1B
MTZJ-T-77-5.6B
RD10ES-B2
RD12ES-B2
RD20ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD7.5ES-B2
1SS119-25
1SS120



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EL1Z-V1
ERB91-02
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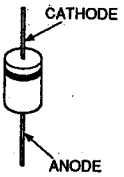
UG4DL-6506
3DL41A



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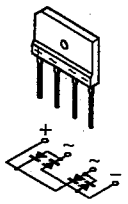

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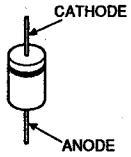

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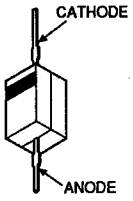
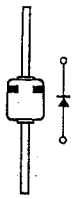
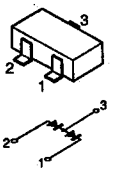


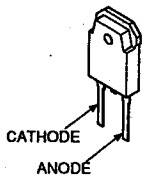
1SS120TD



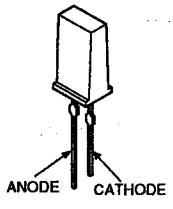
1SS226



5TUZ52



SEL1422G-C,D
SEL1922D-C
SG232D-658
SY432W-M-658



SECTION 6
EXPLODED VIEWS

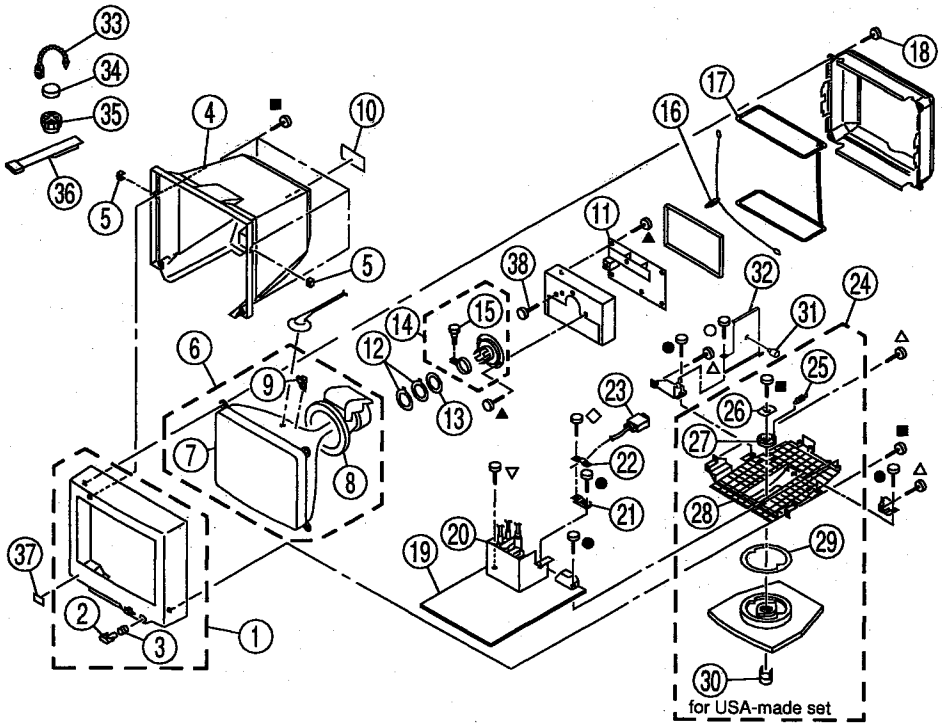
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-1-1. CHASSIS (CPD-200SF)

●	7-685-648-79	+BVTP 3X12	△	7-682-562-04	+BVTT 4X10
▲	7-685-646-79	+BVTP 3X8	▽	7-685-650-79	+BVTP 3X16
■	7-685-663-71	+BVTP 4X16	◇	7-685-659-71	+BVTP 4X8
○	7-682-548-04	+BVTT 3X8			



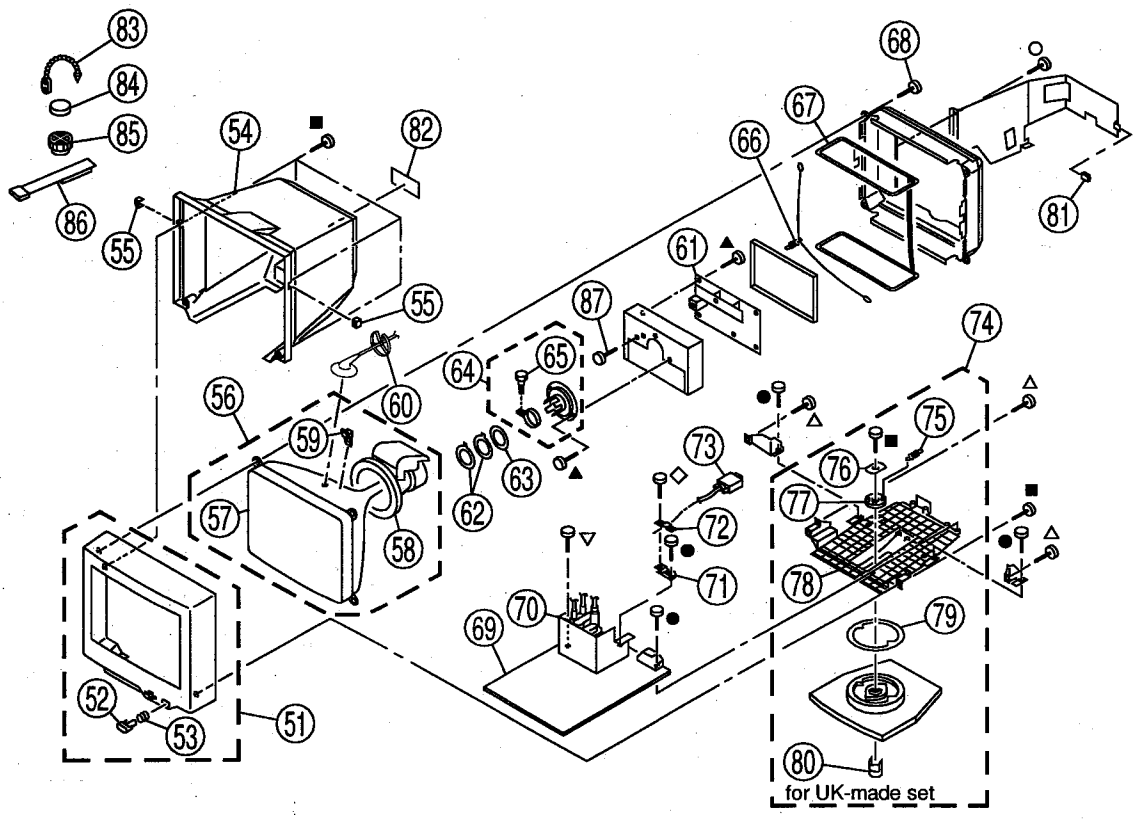
REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4033-961-1	BEZEL ASSY [for Japan-made set]	2,3
	X-4034-061-1	BEZEL ASSY [for USA-made set]	2,3
2	4-046-410-21	BUTTON, POWER	
3	3-571-801-01	SPRING, COMPRESSION	
4	4-046-427-01	CABINET	
5	4-046-903-01	COVER, SCREW	
6	⚠8-738-709-92	ITC ASSY (17SASK R2) (US/CN)	7-9
	⚠8-738-709-91	ITC ASSY (17SASK R3) (ES)	7-9
	⚠8-738-713-91	ITC ASSY (17SASK RS1) (AUS)	7-9
7	⚠8-738-709-05	PICTURE TUBE 17SASK (US/CN, ES)	
	⚠8-738-713-05	PICTURE TUBE 17SASK (AUS)	
8	⚠8-451-478-71	DEFLECTION YOKE Y17SAH5-M7	
9	4-040-897-01	SPACER, DY [for USA-made set]	
	4-050-492-01	SPACER, DY [for Japan-made set]	
10	*4-056-261-01	LABEL, INFORMATION [ES for Japan-made set, U/C for Japan-made set]	
	*4-056-261-11	LABEL, INFORMATION [AUS for Japan-made set]	
	*4-056-265-01	LABEL, INFORMATION [ES for USA-made set, U/C for USA-made set]	
	*4-056-265-11	LABEL, INFORMATION [AUS for USA-made set]	
11	*8-933-199-00	A BOARD, COMPLETE	
12	1-452-369-41	MAGNET, RING (6P)	
13	4-046-898-01	SPACER, MG	
14	X-4033-948-1	HOLDER ASSY, PWB	15
15	4-041-627-01	SCREW (M4X20), HEXAGON HEAD	
16	*4-047-316-01	SPRING, TENSION	
17	⚠1-409-975-12	COIL, DEMAGNETIZATION	
18	4-365-808-01	SCREW (5), TAPPING	
19	*8-933-208-00	D BOARD, COMPLETE	
20	⚠X-4034-327-1	TRANSFORMER ASSY, FLYBACK (NX-4111/J1E4)	
21	*4-045-130-01	BRACKET, CABLE	
22	*4-045-131-01	STOPPER, CABLE	
23	1-776-975-31	CABEL ASSY (15P DSUB CONNECTOR)	
24	X-4032-232-1	STAND ASSY, SWIVEL	25-30
25	4-046-901-01	SPRING, TENSION	
26	*4-043-646-01	HOLDER, STAND	
27	4-041-623-01	STOPPER (A)	
28	4-046-426-01	COVER, BOTTOM	
29	*4-041-625-01	RING, TILT SWIVEL [for Japan-made set]	
	*4-041-625-21	RING, TILT SWIVEL [for USA-made set]	
30	*4-041-621-21	STOPPER (B) [for USA-made set]	
31	*3-691-950-01	SPACER, P.C.B	
32	*4-046-894-02	SHIELD, FBT	
33	4-308-870-00	CLIP, LEAD WIRE	
34	1-452-032-00	MAGNET, DISC ; 10mmϕ	
35	1-452-094-00	MAGNET, ROTATABLE DISK ; 15mmϕ	
36	X-4030-584-1	PERMALLOY ASSY, CORRECTION	
37	*4-045-471-01	LABEL, ENERGY STAR	
38	4-382-854-01	SCREW (M3X8), P, SW(+)	

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

6-1-2. CHASSIS (CPD-200SFT)

● 7-685-648-79 +BVTP 3X12
▲ 7-685-646-79 +BVTP 3X8
■ 7-685-663-71 +BVTP 4X16
○ 7-682-548-04 +BVTT 3X8
△ 7-682-562-04 +BVTT 4X10
▽ 7-685-650-79 +BVTP 3X16
◇ 7-685-659-71 +BVTP 4X8



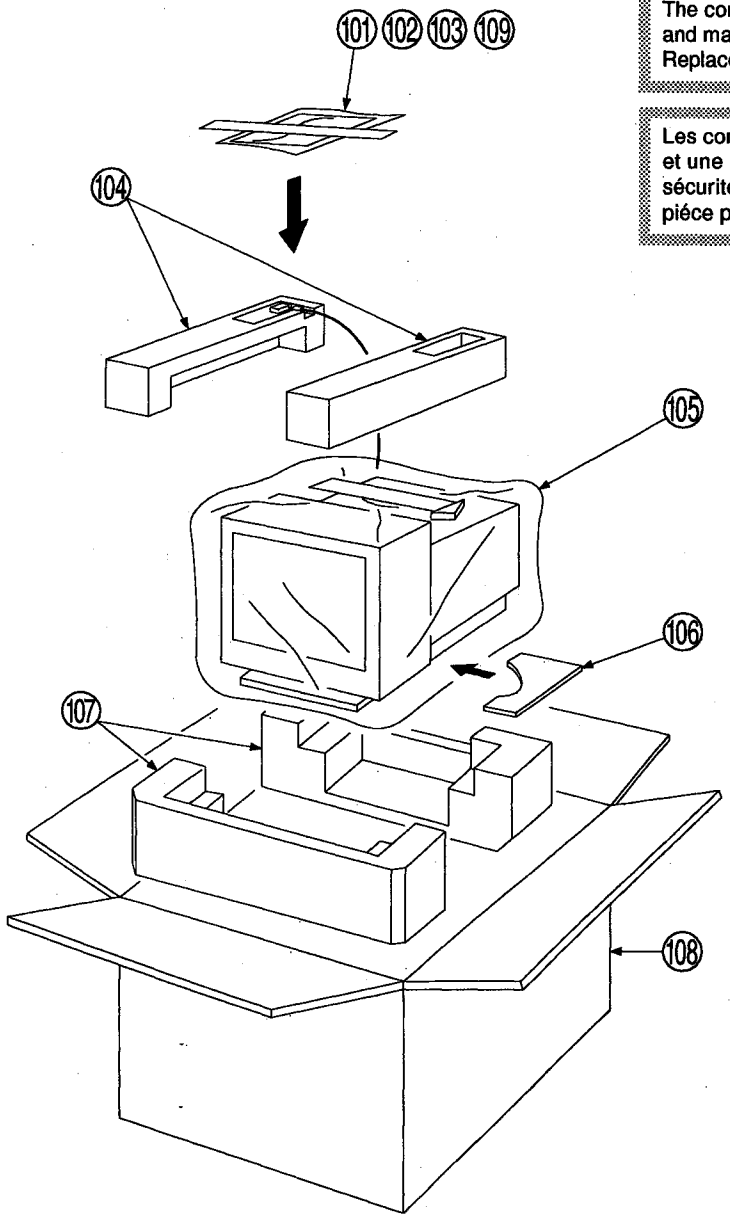
REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4033-961-1	BEZEL ASSY [for Japan-made set]	52,53
	X-4034-057-1	BEZEL ASSY [for UK-made set]	52,53
52	4-046-410-21	BUTTON, POWER [for Japan- made set]	
	4-046-410-31	BUTTON, POWER [for UK-made set]	
53	3-571-801-01	SPRING, COMPRESSION	
54	4-046-427-01	CABINET	
55	4-046-903-01	COVER, SCREW [for Japan-made set]	
	4-046-903-11	COVER, SCREW [for UK-made set]	
56	⚠8-738-605-95	ITC ASSY (17SAFK-R6) (AEP, UK)	57-59
57	⚠8-738-605-05	PICTURE TUBE (17SAFK) (AEP, UK)	
58	⚠8-451-478-71	DEFLECTION YOKE Y (17SAH5-M7)	
59	4-050-492-01	SPACER,DY	
60	*3-704-372-01	HOLDER, HV CABEL	
61	*8-933-199-00	A BOARD, COMPLETE	
62	1-452-369-41	MAGNET, RING (6P)	
63	4-046-898-01	SPACER, MG	
64	X-4033-948-1	HOLDER ASSY, PWB	65
65	4-041-627-01	SCREW (M4X20), HEXAGON HEAD	
66	*4-047-316-01	SPRING, TENSION	
67	⚠1-409-975-12	COIL, DEMAGNETIZATION	
68	4-365-808-01	SCREW (5), TAPPING	
69	*8-933-208-00	D BOARD, COMPLETE	
70	⚠X-4034-327-1	TRANSFORMER ASSY, FLYBACK (NX-4111/J1E4)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
71	*4-045-130-01	BRACKET, CABLE [for Japan-made set]	
	*4-045-130-21	BRACKET, CABLE [for UK-made set]	
72	*4-045-131-01	STOPPER, CABLE [for Japan-made set]	
	*4-045-131-11	STOPPER, CABLE [for UK-made set]	
73	1-776-975-31	CABEL ASSY (15P DSUB CONNECTOR)	
74	X-4032-232-1	STAND ASSY, SWIVEL	75-80
75	4-046-901-01	SPRING, TENSION [for Japan-made set]	
	4-052-618-01	SPRING, EXTENSION [for UK-made set]	
76	*4-043-646-01	HOLDER, STAND	
77	4-041-623-01	STOPPER (A)	
78	4-046-426-01	COVER, BOTTOM	
79	*4-041-625-01	RING, TILT SWIVEL	
80	4-041-621-01	STOPPER (B) [for UK-made set]	
81	4-056-713-01	HOLDER, SIDE	
82	*4-056-180-01	LABEL, INFORMATION [for Japan-made set]	
	*4-056-245-01	LABEL, INFORMATION [for UK-made set]	
83	4-308-870-00	CLIP, LEAD WIRE	
84	1-452-032-00	MAGNET, DISC ; 10mmϕ	
85	1-452-094-00	MAGNET, ROTATABLE DISK;15mmϕ	
86	X-4030-584-1	PERMALLOY ASSY, CORRECTION	
87	7-382-854-01	SCREW (M3X8), P, SW(+)	

6-2. PACKING MATERIALS

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.



REF.NO.	PART NO.	DESCRIPTION	REMARK
101	⚠1-556-481-12	CORD, POWER (10A/125V)	(CPD-200SF AUS)
	⚠1-765-717-11	CORD SET, POWER (10A/250V)	(CPD-200SF ES/CPD-200SFT AEP)
	⚠1-765-718-11	CORD SET, POWER (10A/125V)	(CPD-200SF U/C)
	⚠1-775-706-11	CORD SET, POWER (10A/250V)	(CPD-200SFT UK)
102	1-774-648-21	ADAPTOR (for VGA)	(CPD-200SF ES, AUS/CPD-200SFT)
	1-573-983-31	ADAPTOR (for MAC) (CPD-200SF)	
103	3-858-024-11	MANUAL, INSTRUCTION	[CPD-200SF for USA-made set]
	3-858-024-21	MANUAL, INSTRUCTION	[CPD-200SFT for UK-made set]
	3-858-024-41	MANUAL, INSTRUCTION	[CPD-200SFT for Japan-made set]
	3-858-024-31	MANUAL, INSTRUCTION	[CPD-200SF for Japan-made set]
104	*4-046-461-01	CUSHION (UPPER) (ASSY)	
105	*4-041-927-01	BAG, POLYETHYLENE	[CPD-200SFT for UK-made set]
	*4-041-927-11	BAG, POLYETHYLENE	[except CPD-200SFT for UK-made set]
106	*4-046-460-01	PAT, TILT FIXED	
107	*4-046-462-01	CUSHION (LOWER) (ASSY)	
108	*4-055-191-01	INDIVIDUAL CARTON	[CPD-200SF for Japan-made set]
	*4-055-899-01	INDIVIDUAL CARTON	[CPD-200SFT for Japan-made set]
	*4-056-175-01	INDIVIDUAL CARTON	[CPD-200SF for USA-made set]
	*4-056-176-01	INDVIDUAL CARTON	[CPD-200SFT for UK-made set]
109	4-056-722-01	Windows 95 Monitor Information Disk	

SECTION 7
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  MF: μF
- COILS
  UH: μH

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*8-933-199-00	A BOARD, COMPLETE			
		**********			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
		<CAPACITOR>			
C001	1-163-125-00	CERAMIC CHIP	220pF	5% 50V	
C002	1-104-653-11	ELECT	220MF	20% 16V	
C003	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C004	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C005	1-163-243-11	CERAMIC CHIP	47pF	5% 50V	
C006	1-163-243-11	CERAMIC CHIP	47pF	5% 50V	
C007	1-124-589-11	ELECT	47MF	20% 16V	
C008	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C009	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C010	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C011	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C012	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C013	1-164-161-11	CERAMIC CHIP	0.0022MF	10% 50V	
C014	1-128-562-11	ELECT	47MF	20% 100V	
C015	1-106-220-00	MYLAR	0.1MF	10% 100V	
C016	1-126-933-11	ELECT	100MF	20% 16V	
C017	1-126-967-11	ELECT	47MF	20% 16V	
C018	1-107-961-91	ELECT	10MF	20% 250V	
C019	1-163-243-11	CERAMIC CHIP	47pF	5% 50V	
C020	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C022	1-126-933-11	ELECT	100MF	20% 16V	
C027	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C028	1-126-933-11	ELECT	100MF	20% 16V	
C029	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C031	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	
C032	1-164-232-11	CERAMIC CHIP	0.01MF	10% 50V	
C033	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C034	1-163-009-11	CERAMIC CHIP	0.001MF	10% 50V	
C035	1-162-134-11	CERAMIC	470pF	10% 2KV	
C036	1-163-231-11	CERAMIC CHIP	15pF	5% 50V	
C037	1-106-367-00	MYLAR	0.01MF	10% 100V	
C038	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C039	1-126-933-11	ELECT	100MF	20% 16V	
C040	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C041	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C042	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C055	1-163-231-11	CERAMIC CHIP	15pF	5% 50V	
C088	1-126-933-11	ELECT	100MF	20% 16V	
C092	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C100	1-126-967-11	ELECT	47MF	20% 16V	
C101	1-126-157-11	ELECT	10MF	20% 16V	
C102	1-163-087-00	CERAMIC CHIP	4pF	0.25pF 50V	
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C104	1-107-823-11	CERAMIC CHIP	0.47MF	10% 16V	
C105	1-124-903-11	ELECT	1MF	20% 50V	
C106	1-117-450-11	CAPACITOR	0.047MF	10% 250V	
C107	1-163-125-00	CERAMIC CHIP	220pF	5% 50V	
C108	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C201	1-126-157-11	ELECT	10MF	20% 16V	
C202	1-163-087-00	CERAMIC CHIP	4pF	0.25pF 50V	
C203	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C204	1-107-823-11	CERAMIC CHIP	0.47MF	10% 16V	
C205	1-124-903-11	ELECT	1MF	20% 50V	
C206	1-117-450-11	CAPACITOR	0.047MF	10% 250V	
C207	1-163-125-00	CERAMIC CHIP	220pF	5% 50V	
C208	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C209	1-162-117-00	CERAMIC	100pF	10% 500V	
C301	1-126-157-11	ELECT	10MF	20% 16V	
C302	1-163-087-00	CERAMIC CHIP	4pF	0.25pF 50V	
C303	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C304	1-107-823-11	CERAMIC CHIP	0.47MF	10% 16V	
C305	1-124-903-11	ELECT	1MF	20% 50V	
C306	1-117-450-11	CAPACITOR	0.047MF	10% 250V	
C307	1-163-125-00	CERAMIC CHIP	220pF	5% 50V	
C308	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C309	1-162-117-00	CERAMIC	100pF	10% 500V	
C330	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C334	1-164-004-11	CERAMIC CHIP	0.1MF	10% 25V	
C351	1-137-528-11	FILM	0.1MF	10% 250V	
		<CONNECTOR>			
CN301	*1-506-108-41	PIN, CONNECTOR (TERMINAL PIN)			
CN302	1-695-915-11	TAB (CONTACT)			
CN303	1-695-915-11	TAB (CONTACT)			
CN305	*1-564-525-11	PLUG, CONNECTOR	10P		
CN306	*1-564-526-11	PLUG, CONNECTOR	11P		
CN307	*1-564-512-11	PLUG, CONNECTOR	9P		
CN308	*1-564-507-11	PLUG, CONNECTOR	4P		

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN309*	1-564-521-11	PLUG, CONNECTOR 6P	
		<DIODE>	
D002	8-719-911-19	DIODE 1SS119-25	
D011	8-719-911-19	DIODE 1SS119-25	
D014	8-719-911-19	DIODE 1SS119-25	
D054	8-719-109-89	ZENER DIODE RD5.6ESB2	
D055	8-719-109-89	ZENER DIODE RD5.6ESB2	
D056	8-719-109-89	ZENER DIODE RD5.6ESB2	
D057	8-719-109-89	ZENER DIODE RD5.6ESB2	
D058	8-719-109-89	ZENER DIODE RD5.6ESB2	
D059	8-719-109-89	ZENER DIODE RD5.6ESB2	
D101	8-719-800-76	DIODE 1SS226	
D104	8-719-970-83	DIODE HSS82	
D105	8-719-970-83	DIODE HSS82	
D106	8-719-970-83	DIODE HSS82	
D201	8-719-800-76	DIODE 1SS226	
D204	8-719-970-83	DIODE HSS82	
D205	8-719-970-83	DIODE HSS82	
D206	8-719-970-83	DIODE HSS82	
D301	8-719-800-76	DIODE 1SS226	
D304	8-719-970-83	DIODE HSS82	
D305	8-719-970-83	DIODE HSS82	
D306	8-719-970-83	DIODE HSS82	
		<FERRITE BEAD>	
FB001	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB002	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB003	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB004	1-216-295-91	CONDUCTOR, CHIP	
FB005	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB006	1-216-295-91	CONDUCTOR, CHIP	
FB007	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB008	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB013	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB014	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB015	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB016	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB017	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB018	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB019	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB020	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB021	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB022	1-414-231-21	INDUCTOR, FERRITE BEAD	
FB101	1-500-104-21	BEAD, FERRITE (SMD)	
FB102	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB103	1-500-104-21	BEAD, FERRITE (SMD)	
FB201	1-500-104-21	BEAD, FERRITE (SMD)	
FB202	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB203	1-500-104-21	BEAD, FERRITE (SMD)	
FB301	1-500-104-21	BEAD, FERRITE (SMD)	
FB302	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB303	1-500-104-21	BEAD, FERRITE (SMD)	
		<TERMINAL>	
GT101*	1-537-738-21	TERMINAL, EARTH	
GT102*	1-537-738-21	TERMINAL, EARTH	
GT103*	1-537-738-21	TERMINAL, EARTH	
GT104*	1-537-738-21	TERMINAL, EARTH	
		<IC>	
IC001	8-759-358-83	IC LM2283N	
IC002	8-759-435-33	IC LM2405T	
IC003	8-759-399-76	IC SNY425	
IC004	8-759-434-40	IC TDA6103Q/N3,112	
IC005	8-759-100-96	IC UPC4558G2	
IC006	8-759-269-09	IC SN74HCT04ANS	
IC007	8-759-098-07	IC HD74HC123AFP-T1	
		<JACK>	
J001	⚠ 1-251-116-12	SOCKET, PICTURE TUBE	
		<TRANSISTOR>	
Q001	8-729-032-61	TRANSISTOR 2SC5022-02	
Q002	8-729-216-22	TRANSISTOR 2SA1162-G	
Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R001	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R002	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R003	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R004	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R005	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R006	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R007	1-216-295-91	CONDUCTOR, CHIP	
R008	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R009	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R010	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R011	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R012	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R013	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R014	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R015	1-216-121-91	METAL GLAZE 1M 5% 1/10W	
R016	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R017	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R018	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R019	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R020	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R021	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R022	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R023	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R024	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R025	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R026	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R027	1-216-097-91	METAL GLAZE 100K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION		REMARK
R028	1-216-372-11	METAL OXIDE	1.8 5% 2W	F
R029	1-216-097-91	METAL GLAZE	100K 5% 1/10W	
R030	1-216-097-91	METAL GLAZE	100K 5% 1/10W	
R032	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	
R033	1-216-667-11	METAL CHIP	4.7K 0.50% 1/10W	
R034	1-216-049-91	METAL GLAZE	1K 5% 1/10W	
R035	1-216-119-00	METAL GLAZE	820K 5% 1/10W	
R036	1-216-109-00	METAL GLAZE	330K 5% 1/10W	
R037	1-216-119-00	METAL GLAZE	820K 5% 1/10W	
R038	1-216-099-00	METAL GLAZE	120K 5% 1/10W	
R039	1-216-111-91	METAL GLAZE	390K 5% 1/10W	
R040	1-216-119-00	METAL GLAZE	820K 5% 1/10W	
R041	1-216-685-11	METAL CHIP	27K 0.50% 1/10W	
R042	1-216-295-91	CONDUCTOR, CHIP		
R044	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R045	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R048	1-211-885-21	METAL	2.2M 5% 1W	
R049	1-216-095-00	METAL GLAZE	82K 5% 1/10W	
R053	1-211-895-11	METAL	10M 10% 1/4W	
R054	1-216-017-91	METAL GLAZE	47 5% 1/10W	
R055	1-216-017-91	METAL GLAZE	47 5% 1/10W	
R056	1-216-041-00	METAL GLAZE	470 5% 1/10W	
R057	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R058	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	
R059	1-216-119-00	METAL GLAZE	820K 5% 1/10W	
R064	1-202-830-00	SOLID	10K 20% 1/2W	
R077	1-216-049-91	METAL GLAZE	1K 5% 1/10W	
R101	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R102	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R103	1-208-806-11	METAL CHIP	10K 0.50% 1/10W	
R104	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R105	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	
R106	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R107	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R108	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	
R109	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R110	1-216-697-91	METAL CHIP	82K 0.50% 1/10W	
R111	1-260-094-11	CARBON	390 5% 1/2W	
R112	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R113	1-216-009-00	METAL GLAZE	22 5% 1/10W	
R114	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R116	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R117	1-249-397-11	CARBON	22 5% 1/4W	F
R150	1-216-295-91	CONDUCTOR, CHIP		
R151	1-202-549-00	SOLID	100 20% 1/2W	
R162	1-216-049-91	METAL GLAZE	1K 5% 1/10W	
R201	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R202	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R203	1-216-097-91	METAL GLAZE	100K 5% 1/10W	
R204	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R205	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	
R206	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R207	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R208	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	
R209	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R210	1-216-697-91	METAL CHIP	82K 0.50% 1/10W	
R211	1-260-094-11	CARBON	390 5% 1/2W	
R212	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R213	1-216-009-00	METAL GLAZE	22 5% 1/10W	
R214	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R216	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R217	1-249-397-11	CARBON	22 5% 1/4W	F
R250	1-216-295-91	CONDUCTOR, CHIP		
R251	1-202-549-00	SOLID	100 20% 1/2W	
R262	1-216-049-91	METAL GLAZE	1K 5% 1/10W	
R301	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R302	1-216-631-11	METAL CHIP	150 0.50% 1/10W	
R303	1-216-097-91	METAL GLAZE	100K 5% 1/10W	
R304	1-216-025-91	METAL GLAZE	100 5% 1/10W	
R305	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	
R306	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R307	1-216-073-00	METAL GLAZE	10K 5% 1/10W	
R308	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	
R309	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R310	1-216-697-91	METAL CHIP	82K 0.50% 1/10W	
R311	1-260-094-11	CARBON	390 5% 1/2W	
R312	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	
R313	1-216-009-00	METAL GLAZE	22 5% 1/10W	
R314	1-216-121-91	METAL GLAZE	1M 5% 1/10W	
R316	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	
R317	1-249-397-11	CARBON	22 5% 1/4W	F
R350	1-216-295-91	CONDUCTOR, CHIP		
R351	1-202-549-00	SOLID	100 20% 1/2W	
R362	1-216-049-91	METAL GLAZE	1K 5% 1/10W	

<VARIABLE RESISTOR>

RV001	1-223-410-11	RES, ADJ, METAL FILM	110M	(H.STAT)

<SPARK GAP>

SG001	1-519-422-11	GAP, SPARK
SG101	1-519-504-11	GAP, DISCHARGE
SG201	1-519-504-11	GAP, DISCHARGE
SG301	1-519-504-11	GAP, DISCHARGE

<CRYSTAL>

X1	1-567-890-11	VIBRATOR, CRYSTAL

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*	8-933-208-00	D BOARD, COMPLTE
		**********
	3-710-578-01	COVER, VOLUME, 6 MOLD
*	4-043-990-01	HEAT SINK (D601)
	4-045-132-01	HOLDER (A), LED (D911)
	4-050-691-01	HOLDER, IC (IC505)
	4-051-602-01	SHEET, RADIATION (Q653)

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REF.NO.	PART NO.	DESCRIPTION			REMARK
	4-051-627-01	SHEET, INSULATING (IC505)			
	4-056-129-01	HOLDER, IC (IC601)			
	4-389-025-01	SCREW (M4) (EXT TOOTH WASHER)			
	7-685-647-79	SCREW +BVTP 3X10 TYPE2			
		<CAPACITOR>			
C401	1-128-528-11	ELECT	470MF	20%	25V
C402	1-102-112-00	CERAMIC	330pF	10%	50V
C403	1-137-399-11	FILM	0.1MF	5%	50V
C404	1-106-228-00	MYLAR	0.22MF	10%	100V
C405	1-107-894-11	ELECT	220MF	20%	35V
C406	1-126-105-11	ELECT	1000MF	20%	25V
C407	1-101-006-00	CERAMIC	0.047MF		50V
C408	1-136-105-00	FILM	0.33MF	5%	200V
C410	1-108-377-91	FILM	0.01MF	10%	100V
C501	1-117-413-11	CAPACITOR	0.006MF	3%	1.8KV
C502	1-107-961-91	ELECT	10MF	20%	250V
C503	1-107-649-11	ELECT	2.2MF	20%	250V
C504	1-162-815-11	CERAMIC	47pF	5%	500V
C505	1-136-173-00	FILM	0.47MF	5%	50V
C506	1-113-714-11	FILM	2000pF	3%	2KV
C507	1-102-157-00	CERAMIC	560pF	10%	500V
C508	1-104-664-11	ELECT	47MF	20%	25V
C509	1-137-368-11	FILM	0.0047MF	5%	50V
C511	1-136-244-11	FILM	0.1MF	5%	50V
C512	1-137-370-11	FILM	0.01MF	5%	50V
C513	1-126-964-11	ELECT	10MF	20%	50V
C515	1-115-509-11	FILM	0.068MF	5%	250V
C516	1-115-512-11	FILM	0.15MF	5%	250
C517	1-117-451-81	CAPACITOR	0.43MF	5%	250V
C518	1-115-524-11	FILM	1.5MF	5%	250V
C519	1-137-370-11	FILM	0.01MF	5%	50V
C522	1-102-030-00	CERAMIC	330pF	10%	500V
C523	1-109-879-11	CERAMIC	22pF	5%	2KV
C524	1-136-749-11	FILM	0.36MF	5%	400V
C525	1-136-105-00	FILM	0.33MF	5%	200V
C526	1-106-375-12	MYLAR	0.022MF		200V
C529	1-115-349-51	CERAMIC	0.01MF		2KV
C530	1-137-368-11	FILM	0.0047MF	5%	50V
C531	1-137-399-11	FILM	0.1MF	5%	50V
C532	1-137-370-11	FILM	0.01MF	5%	50V
C533	1-136-177-00	FILM	1MF	5%	50V
C535	1-137-399-11	FILM	0.1MF	5%	50V
C536	1-126-965-11	ELECT	22MF	20%	50V
C537	1-124-903-11	ELECT	1.0MF	20%	50V
C538	1-136-203-11	FILM	0.01MF	5%	630V
C543	1-102-106-00	CERAMIC	100pF	10%	50V
C544	1-137-366-11	FILM	0.0022MF	5%	50V
C545	1-137-366-11	FILM	0.0022MF	5%	50V
C546	1-137-366-11	FILM	0.0022MF	5%	50V
C547	1-163-005-11	CERAMIC CHIP	470pF	10%	50V
C548	1-137-368-11	FILM	0.0047MF	5%	50V
C549	1-117-411-11	CAPACITOR	0.16MF	5%	250V
C550	1-137-364-11	FILM	0.001MF	5%	50V
C551	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C552	1-126-952-11	ELECT	1000MF	20%	16V
C553	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C554	1-137-399-11	FILM	0.1MF	5%	50V
C558	1-102-002-00	CERAMIC	680pF	10%	500V
C560	1-137-375-11	FILM	0.068MF	5%	50V
C561	1-124-903-11	ELECT	1MF	20%	50V
C562	1-126-964-11	ELECT	10MF	20%	50V
C563	1-126-964-11	ELECT	10MF	20%	50V
C564	1-106-375-12	MYLAR	0.022MF		200V
C566	1-126-964-11	ELECT	10MF	20%	50V
C569	1-137-370-11	FILM	0.01MF	5%	50V
C570	1-137-370-11	FILM	0.01MF	5%	50V
C571	1-137-370-11	FILM	0.01MF	5%	50V
C572	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C573	1-137-372-11	FILM	0.022MF	5%	50V
C574	1-137-368-11	FILM	0.0047MF	5%	50V
C575	1-128-528-11	ELECT	470MF	20%	25V
C576	1-107-714-11	ELECT	10MF	20%	16V
C578	1-117-411-11	CAPACITOR	0.16MF	5%	250V
C579	1-117-412-11	CAPACITOR	0.24MF	5%	250V
C580	1-137-370-11	FILM	0.01MF	5%	50V
C581	1-136-173-00	FILM	0.47MF	5%	50V
C582	1-137-399-11	FILM	0.1MF	5%	50V
C584	1-137-370-11	FILM	0.01MF	5%	50V
C601 ⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C602 ⚠	1-113-912-51	CERAMIC	0.0047MF	20%	250V
C603 ⚠	1-104-708-51	FILM	0.47MF	20%	250V
C604 ⚠	1-104-708-51	FILM	0.47MF	20%	250V
C605 ⚠	1-113-912-51	CERAMIC	0.0047MF	20%	250V
C606 ⚠	1-113-900-51	CERAMIC	470pF	10%	250V
C607	1-126-968-11	ELECT	100MF	20%	50V
C608	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C611	1-104-666-11	ELECT	220MF	20%	25V
C612	1-126-971-11	ELECT	470MF	20%	50V
C613	1-102-074-00	CERAMIC	0.001MF	10%	50V
C617	1-126-925-11	ELECT	470MF	20%	10V
C619	1-136-619-11	FILM	0.0016MF	3%	2KV
C643	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C652	1-125-700-11	ELECT	220MF	20%	200V
C653	1-107-936-11	ELECT	470MF	20%	100V
C654	1-107-899-11	ELECT	3300MF	20%	35V
C655	1-107-899-11	ELECT	3300MF	20%	35V
C656	1-126-105-11	ELECT	1000MF	20%	25V
C657	1-107-956-11	ELECT	220MF	20%	200V
C658	1-107-896-11	ELECT	470MF	20%	35V
C659	1-128-526-11	ELECT	100MF	20%	25V
C661	1-126-971-11	ELECT	470MF	20%	50V
C662	1-126-943-11	ELECT	2200MF	20%	25V
C663	1-128-526-11	ELECT	100MF	20%	25V
C701	1-137-370-11	FILM	0.01MF	5%	50V
C702	1-126-935-11	ELECT	470MF	20%	16V
C703	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C704	1-126-935-11	ELECT	470MF	20%	16V
C705	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C706	1-124-925-11	ELECT	2.2MF	20%	50V
C707	1-137-372-11	FILM	0.022MF	5%	50V
C708	1-163-243-11	CERAMIC CHIP	47pF	5%	50V

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REF.NO.	PART NO.	DESCRIPTION				REMARK
C709	1-124-903-11	ELECT	1MF	20%	50V	
C710	1-137-399-11	FILM	0.1MF	5%	50V	
C711	1-137-399-11	FILM	0.1MF	5%	50V	
C712	1-136-495-11	FILM	0.068MF	5%	50V	
C714	1-137-399-11	FILM	0.1MF	5%	50V	
C715	1-137-366-11	FILM	0.0022MF	5%	50V	
C716	1-124-768-11	ELECT	4.7MF	20%	35V	
C717	1-136-169-00	FILM	0.22MF	5%	50V	
C718	1-136-169-00	FILM	0.22MF	5%	50V	
C719	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C720	1-137-399-11	FILM	0.1MF	5%	50V	
C721	1-126-935-11	ELECT	470MF	20%	16V	
C722	1-137-370-11	FILM	0.01MF	5%	50V	
C723	1-102-112-00	CERAMIC	330pF	10%	50V	
C724	1-136-173-00	FILM	0.47MF	5%	50V	
C725	1-136-173-00	FILM	0.47MF	5%	50V	
C728	1-124-768-11	ELECT	4.7MF	20%	35V	
C729	1-126-963-11	ELECT	4.7MF	20%	50V	
C730	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C731	1-163-006-11	CERAMIC CHIP	560pF	10%	50V	
C732	1-126-935-11	ELECT	470MF	20%	16V	
C803	1-126-965-11	ELECT	22MF	20%	50V	
C804	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C806	1-126-964-11	ELECT	10MF	20%	50V	
C807	1-104-663-11	ELECT	33MF	20%	25V	
C808	1-104-663-11	ELECT	33MF	20%	25V	
C809	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C901	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C902	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C903	1-102-112-00	CERAMIC	330pF	10%	50V	
C904	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C908	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C909	1-124-925-11	ELECT	2.2MF	20%	50V	
C910	1-124-925-11	ELECT	2.2MF	20%	50V	
C911	1-124-925-11	ELECT	2.2MF	20%	50V	
C912	1-124-925-11	ELECT	2.2MF	20%	50V	
C913	1-124-925-11	ELECT	2.2MF	20%	50V	
C914	1-124-925-11	ELECT	2.2MF	20%	50V	
C915	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C916	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C917	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C918	1-124-903-11	ELECT	1MF	20%	50V	
C919	1-163-231-11	CERAMIC CHIP	15pF	5%	50V	
C920	1-163-231-11	CERAMIC CHIP	15pF	5%	50V	
C921	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C922	1-126-952-11	ELECT	1000MF	20%	16V	
C923	1-126-963-11	ELECT	4.7MF	20%	50V	
C924	1-163-038-91	CERAMIC CHIP	0.1MF		25V	
C925	1-137-370-11	FILM	0.01MF	5%	50V	
C926	1-163-005-11	CERAMIC CHIP	470pF	10%	50V	
C927	1-163-005-11	CERAMIC CHIP	470pF	10%	50V	
C928	1-124-903-11	ELECT	1MF	20%	50V	
C930	1-163-239-11	CERAMIC CHIP	33pF	5%	50V	
C931	1-126-965-11	ELECT	22MF	20%	50V	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN401*	1-580-837-11	PIN, CONNECTOR (PC BOARD) 3P	
CN501*	1-778-903-11	PIN, CONNECTOR (PC BOARD) 6P	
CN503	1-695-915-11	TAB (CONTACT)	
CN600△	1-251-444-11	INLET, AC	
CN601*	1-564-513-11	PLUG, CONNECTOR 10P	
CN603*	1-506-371-00	PIN, CONNECTOR 2P	
CN605	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
CN901*	1-508-879-11	BASE POST	
CN902*	1-564-514-11	PLUG, CONNECTOR 11P	
CN903*	1-564-509-11	PLUG, CONNECTOR 6P	
		<DIODE>	
D402	8-719-979-58	DIODE EGP10D	
D403	8-719-911-19	DIODE 1SS119-25	
D404	8-719-908-03	DIODE GP08D	
D405	8-719-908-03	DIODE GP08D	
D501	8-719-975-77	DIODE SB340	
D502	8-719-049-12	DIODE 5TUZ52	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; D502	
D503	8-719-911-19	DIODE 1SS119-25	
D505	8-719-110-31	ZENER DIODE RD12ESB2	
D506	8-719-939-79	DIODE GMA01-BT	
D507	8-719-939-79	DIODE GMA01-BT	
D512	8-719-110-31	ZENER DIODE RD12ESB2	
D513	8-719-018-82	DIODE RGP02-20EL-6394	
D516	8-719-051-97	DIODE 3DL41A(LC6-15)	
D517	8-719-911-19	DIODE 1SS119-25	
D518	8-719-947-06	DIODE RGP10JPKG23	
D524	8-719-970-83	DIODE HSS82	
D525	8-719-110-31	ZENER DIODE RD12ESB2	
D526	8-719-051-97	DIODE 3DL41A(LC6-15)	
D527	8-719-110-31	ZENER DIODE RD12ESB2	
D528	8-719-941-74	DIODE ERB91-02	
D529	8-719-911-19	DIODE 1SS119-25	
D530	8-719-109-85	ZENER DIODE RD5.1ESB2	
D601 △	8-719-025-66	DIODE GBU4JL-6088	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; D601	
D604	8-719-110-02	ZENER DIODE RD7.5ESB1	
D606	8-719-302-43	DIODE EL1Z	
D607	8-719-302-43	DIODE EL1Z	
D608	8-719-300-76	DIODE RH-1A	
D609	8-719-300-76	DIODE RH-1A	
D612	8-719-970-83	DIODE HSS82	
D650	8-719-048-62	DIODE UF3ML-6505	
D651	8-719-979-58	DIODE EGP10D	
D652	8-719-048-63	DIODE UG4DL-6506	
D653	8-719-048-63	DIODE UG4DL-6506	
D654	8-719-051-97	DIODE 3DL41A(LC6-15)	
D655	8-719-911-19	DIODE 1SS119-25	
D657	8-719-048-61	DIODE EGP20DL-6349	
D658	8-719-048-61	DIODE EGP20DL-6349	
D659	8-719-110-17	ZENER DIODE RD10ESB2	
D660	8-719-911-19	DIODE 1SS119-25	
D701	8-719-911-19	DIODE 1SS119-25	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D703	8-719-109-85	ZENER DIODE RD5.1ESB2	
D704	8-719-911-19	DIODE 1SS119-25	
D800	8-719-302-43	DIODE EL1Z	
D801	8-719-110-53	ZENER DIODE RD20ESB2	
D802	8-719-939-79	DIODE GMA01-BT	
D803	8-719-109-85	ZENER DIODE RD5.1ESB2	
D901	8-719-911-19	DIODE 1SS119-25	
D902	8-719-109-89	ZENER DIODE RD5.6ESB2	
D903	8-719-911-19	DIODE 1SS119-25	
D904	8-719-911-19	DIODE 1SS119-25	
D905	8-719-911-19	DIODE 1SS119-25	
D906	8-719-911-19	DIODE 1SS119-25	
D907	8-719-911-19	DIODE 1SS119-25	
D908	8-719-911-19	DIODE 1SS119-25	
D909	8-719-911-19	DIODE 1SS119-25	
D910	8-719-311-90	DIODE SEL1922D-C	
D911	8-719-311-15	DIODE SEL1422G-C,D	
D913	8-719-109-85	ZENER DIODE RD5.1ESB2	
D914	8-719-109-89	ZENER DIODE RD5.6ESB2	
D915	8-719-109-89	ZENER DIODE RD5.6ESB2	
D916	8-719-109-89	ZENER DIODE RD5.6ESB2	
D917	8-719-109-85	ZENER DIODE RD5.1ESB2	
D919	8-719-109-85	ZENER DIODE RD5.1ESB2	
D920	8-719-911-19	DIODE 1SS119-25	
D921	8-719-911-19	DIODE 1SS119-25	
		<FUSE>	
F601	⚠1-576-232-11	FUSE (H.B.C.) 5A/250V	
		<FERRITE BEAD>	
FB501	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH
FB502	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH
FB503	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH
FB504	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH
FB603	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH
FB901	1-410-397-21	FERRITE BEAD INDUCTOR	1.1UH
FB902	1-410-397-21	FERRITE BEAD INDUCTOR	1.1UH
FB903	1-412-911-11	INDUCTOR, FERRITE BEAD	
		<FUSE CLIP>	
FF601	1-533-223-11	HOLDER, FUSE	
FF602	1-533-223-11	HOLDER, FUSE	
		<TERMINAL>	
GT001*	1-537-738-21	TERMINAL, EARTH	
GT002*	1-537-738-21	TERMINAL, EARTH	
		<IC>	
IC501	⚠8-759-441-12	IC SNY96523	
IC502	8-759-980-58	IC TDA8172	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; IC502	
IC503	8-759-803-42	IC LA6500-FA	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; IC503	
IC504	8-759-981-65	IC LM2903M	
IC505	8-759-803-42	IC LA6500-FA	
IC601	⚠8-749-013-00	IC STR-S6708A	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; IC601	
IC650	8-749-921-86	IC SE-140N	
IC651	8-749-010-64	PHOTO COUPLER PC123F2	
IC652	8-759-072-98	IC TDA8138A	
	4-382-854-01	SCREW (M3X8), P, SW (+) ;IC652	
IC653	8-749-010-64	PHOTO COUPLER PC123F2	
IC701	8-759-399-77	IC TDA9105S	
IC901	8-759-399-80	IC ST7272N5B1/CKO	
IC902	8-759-278-46	IC PST600DMT-T1	
		<CHIP CONDUCTOR>	
JR1	1-216-296-91	CONDUCTOR, CHIP	
JR2	1-216-296-91	CONDUCTOR, CHIP	
JR3	1-216-296-91	CONDUCTOR, CHIP	
JR4	1-216-296-91	CONDUCTOR, CHIP	
JR5	1-216-296-91	CONDUCTOR, CHIP	
JR6	1-216-296-91	CONDUCTOR, CHIP	
JR7	1-216-296-91	CONDUCTOR, CHIP	
JR8	1-216-296-91	CONDUCTOR, CHIP	
JR9	1-216-296-91	CONDUCTOR, CHIP	
JR10	1-216-296-91	CONDUCTOR, CHIP	
JR11	1-216-296-91	CONDUCTOR, CHIP	
JR12	1-216-296-91	CONDUCTOR, CHIP	
JR13	1-216-296-91	CONDUCTOR, CHIP	
JR14	1-216-296-91	CONDUCTOR, CHIP	
JR15	1-216-296-91	CONDUCTOR, CHIP	
JR16	1-216-296-91	CONDUCTOR, CHIP	
JR17	1-216-296-91	CONDUCTOR, CHIP	
JR18	1-216-296-91	CONDUCTOR, CHIP	
JR20	1-216-296-91	CONDUCTOR, CHIP	
JR21	1-216-296-91	CONDUCTOR, CHIP	
JR22	1-216-296-91	CONDUCTOR, CHIP	
JR23	1-216-296-91	CONDUCTOR, CHIP	
JR24	1-216-296-91	CONDUCTOR, CHIP	
JR25	1-216-296-91	CONDUCTOR, CHIP	
JR26	1-216-296-91	CONDUCTOR, CHIP	
JR27	1-216-295-91	CONDUCTOR, CHIP	
JR28	1-216-296-91	CONDUCTOR, CHIP	
JR29	1-216-296-91	CONDUCTOR, CHIP	
		<RESISTOR>	
JW104	1-247-855-91	CARBON 10K 5% 1/4W	
		<COIL>	
L501	1-415-927-11	COIL, HORIZONTAL LINEARITY	
L502	1-412-552-11	INDUCTOR 2.2mH	
L503	1-412-527-11	INDUCTOR 15UH	
L504	1-412-549-11	INDUCTOR 1mH	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
L507	1-412-537-31	INDUCTOR 100UH	
L508	1-411-594-11	COIL, CHOKE 5mH	
L509	1-411-585-11	COIL, HORIZONTAL LINEARITY	
L511	1-429-301-11	TRANSFORMER, FERRITE (HCT)	
L512	1-411-567-11	COIL, CHOKE 500UH	
L513	1-459-075-11	COIL,DYNAMIC CONVERSION CHOKE	
L651	1-406-665-11	COIL, CHOKE 100UH	
L652	1-406-665-11	COIL, CHOKE 100UH	
L653	1-412-537-31	INDUCTOR 100UH	
L701	1-412-537-31	INDUCTOR 100UH	
		<FILTER>	
LF601⚠	1-426-789-11	TRANSFORMER, LINE FILTER (LFT)	
		<TRANSISTOR>	
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q502	8-729-032-61	TRANSISTOR 2SC5022-02	
Q503	8-729-820-73	TRANSISTOR 2SC3746	
Q505	8-729-015-28	TRANSISTOR IRFI9630GS	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; Q505	
Q507	8-729-039-92	TRANSISTOR 2SC5380	
	4-382-854-01	SCREW (M3X8), P, W (+) ; Q507	
Q510	8-729-032-88	TRANSISTOR IRFPG50LF21	
	4-382-854-01	SCREW (M3X8), P, SW (+) ; Q510	
Q511	8-729-027-14	TRANSISTOR 2SK1904	
Q512	8-729-027-14	TRANSISTOR 2SK1904	
Q513	8-729-021-79	TRANSISTOR 2SK1307	
Q515	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q516	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q518	8-729-927-09	TRANSISTOR IRFI9630	
Q519	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q520	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q522	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q523	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q524	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q525	8-729-021-79	TRANSISTOR 2SK1307	
Q526	8-729-140-50	TRANSISTOR 2SC3209LK	
Q604	8-729-028-34	TRANSISTOR 2SD1640Q,R	
Q605	8-729-326-11	TRANSISTOR 2SC2611	
Q651	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q652	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q653	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q655	8-729-029-86	TRANSISTOR DTC124ESA	
Q656	8-729-027-52	TRANSISTOR DTC124EKA-T146	
Q657	8-729-027-52	TRANSISTOR DTC124EKA-T146	
Q658	8-729-140-96	TRANSISTOR 2SD774-34	
Q703	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q704	8-729-216-22	TRANSISTOR 2SA1162-G	
Q801	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q802	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q901	8-729-216-22	TRANSISTOR 2SA1162-G	
Q902	8-729-027-52	TRANSISTOR DTC124EKA-T146	

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R401	1-208-806-11	METAL CHIP	10K	0.50% 1/10W	
R402	1-215-441-00	METAL	6.8K	1% 1/4W	
R405	1-249-383-11	CARBON	1.5	5% 1/4W	F
R406	1-249-421-11	CARBON	2.2K	5% 1/4W	
R407	1-215-866-11	METAL OXIDE	330	5% 1W	F
R408	1-214-798-21	METAL	1.8	1% 1/2W	
R409	1-249-421-11	CARBON	2.2K	5% 1/4W	
R410	1-215-441-00	METAL	6.8K	1% 1/4W	
R411	1-215-445-00	METAL	10K	1% 1/4W	
R412	1-216-295-91	CONDUCTOR, CHIP			
R413	1-216-295-91	CONDUCTOR, CHIP			
R416	1-249-413-11	CARBON	470	5% 1/4W	F
R417	1-214-798-21	METAL	1.8	1% 1/2W	
R418	1-215-473-00	METAL	150K	1% 1/4W	
R419	1-215-473-00	METAL	150K	1% 1/4W	
R500	1-247-891-00	CARBON	330K	5% 1/4W	
R502	1-216-395-00	METAL OXIDE	3.3	5% 3W	F
R503	1-216-395-00	METAL OXIDE	3.3	5% 3W	F
R504	1-249-385-11	CARBON	2.2	5% 1/4W	F
R505	1-249-401-11	CARBON	47	5% 1/4W	
R506	1-247-807-31	CARBON	100	5% 1/4W	
R507	1-249-421-11	CARBON	2.2K	5% 1/4W	
R508	1-215-861-00	METAL OXIDE	47	5% 1W	F
R509	1-247-863-91	CARBON	22K	5% 1/4W	
R510	1-216-449-11	METAL OXIDE	56	5% 2W	F
R511	1-249-397-11	CARBON	22	5% 1/4W	F
R512	1-216-049-91	METAL GLAZE	1K	5% 1/10W	
R513	1-215-910-00	METAL OXIDE	68	5% 3W	F
R514	1-249-441-11	CARBON	100K	5% 1/4W	
R515	1-247-887-00	CARBON	220K	5% 1/4W	
R516	1-249-429-11	CARBON	10K	5% 1/4W	
R517	1-215-477-00	METAL	220K	1% 1/4W	
R518	1-216-071-00	METAL GLAZE	8.2K	5% 1/10W	
R519	1-218-762-11	METAL CHIP	270K	0.50% 1/10W	
R520	1-249-437-11	CARBON	47K	5% 1/4W	
R521	1-249-437-11	CARBON	47K	5% 1/4W	
R522	1-249-437-11	CARBON	47K	5% 1/4W	
R523	1-249-437-11	CARBON	47K	5% 1/4W	
R524	1-249-417-11	CARBON	1K	5% 1/4W	F
R525	1-249-417-11	CARBON	1K	5% 1/4W	F
R526	1-249-417-11	CARBON	1K	5% 1/4W	F
R528	1-249-429-11	CARBON	10K	5% 1/4W	
R529	1-215-421-00	METAL	1K	1% 1/4W	
R531	1-249-429-11	CARBON	10K	5% 1/4W	
R532	1-249-397-11	CARBON	22	5% 1/4W	F
R533	1-215-913-11	METAL OXIDE	220	5% 3W	F
R534	1-215-913-11	METAL OXIDE	220	5% 3W	F
R535⚠	1-215-475-91	METAL	180K	1% 1/4W	
R536	1-215-421-00	METAL	1K	1% 1/4W	
R537	1-249-417-11	CARBON	1K	5% 1/4W	
R538	1-247-895-91	CARBON	470K	5% 1/4W	
R539	1-215-431-00	METAL	2.7K	1% 1/4W	
R540	1-215-471-00	METAL	120K	1% 1/4W	
R541	1-215-431-00	METAL	2.7K	1% 1/4W	
R542	1-215-469-00	METAL	100K	1% 1/4W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R543	1-249-389-11	CARBON	4.7	5%	1/4W	F
R544	1-216-690-11	METAL CHIP	43K	0.50%	1/10W	
R545	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W	
R546	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R547	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R548	1-249-417-11	CARBON	1K	5%	1/4W	F
R549	1-215-905-11	METAL OXIDE	10	5%	3W	F
R550	1-215-905-11	METAL OXIDE	10	5%	3W	F
R551	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R552	1-247-863-91	CARBON	22K	5%	1/4W	
R553	1-260-296-11	CARBON	2.2	5%	1/2W	
R554	1-215-473-00	METAL	150K	1%	1/4W	
R555	1-215-477-00	METAL	220K	1%	1/4W	
R556	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R557	1-218-768-11	METAL CHIP	470K	0.50%	1/10W	
R558	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R559	1-216-678-11	METAL CHIP	13K	0.50%	1/10W	
R560	1-218-772-11	METAL CHIP	680K	0.50%	1/10W	
R561	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R562	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R563	1-215-879-11	METAL OXIDE	47K	5%	1W	F
R565	1-249-417-11	CARBON	1K	5%	1/4W	
R566	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R567	1-249-429-11	CARBON	10K	5%	1/4W	
R568	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R569	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R570	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R571	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R572	1-249-429-11	CARBON	10K	5%	1/4W	
R574	1-249-377-11	CARBON	0.47	5%	1/4W	F
R575	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R576	1-249-421-11	CARBON	2.2K	5%	1/4W	
R577	1-249-417-11	CARBON	1K	5%	1/4W	
R578	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R579	1-247-891-00	CARBON	330K	5%	1/4W	
R580	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R581	1-249-383-11	CARBON	1.5	5%	1/4W	F
R582	1-215-429-00	METAL	2.2K	1%	1/4W	
R583	1-208-810-11	METAL CHIP	15K	0.50%	1/10W	
R584	1-215-883-11	METAL OXIDE	33	5%	2W	F
R585	1-249-429-11	CARBON	10K	5%	1/4W	
R586	1-249-397-11	CARBON	22	5%	1/4W	F
R587	1-215-913-11	METAL OXIDE	220	5%	3W	F
R588	1-249-417-11	CARBON	1K	5%	1/4W	
R589	1-249-377-11	CARBON	0.47	5%	1/4W	F
R590	1-249-381-11	CARBON	1	5%	1/4W	F
R591	1-216-389-11	METAL OXIDE	1	5%	3W	F
R592	1-216-450-00	METAL OXIDE	82	5%	2W	F
R593	1-249-377-11	CARBON	0.47	5%	1/4W	F
R594	1-249-417-11	CARBON	1K	5%	1/4W	F
R595	1-215-477-00	METAL	220K	1%	1/4W	
R596	1-249-417-11	CARBON	1K	5%	1/4W	
R597	1-249-417-11	CARBON	1K	5%	1/4W	F
R598	1-249-437-11	CARBON	47K	5%	1/4W	
R599	1-215-882-00	METAL OXIDE	22	5%	2W	F
R601	1-205-985-21	WIREWOUND	1.5	5%	20W	
R602	1-249-377-11	CARBON	0.47	5%	1/4W	F
R606 ⚠	1-202-882-91	SOLID	560K	20%	1/2W	
R608 ⚠	1-215-927-71	METAL OXIDE	47K	5%	3W	F
R609	1-216-435-11	METAL OXIDE	2.7K	5%	1W	F
R612	1-247-807-31	CARBON	100	5%	1/4W	
R613	1-207-642-00	WIREWOUND	0.15	10%	3W	F
R614	1-249-424-11	CARBON	3.9K	5%	1/4W	
R615	1-247-863-91	CARBON	22K	5%	1/4W	
R617	1-249-419-11	CARBON	1.5K	5%	1/4W	
R621	1-249-421-11	CARBON	2.2K	5%	1/4W	
R627	1-249-377-11	CARBON	0.47	5%	1/4W	F
R631	1-249-417-11	CARBON	1K	5%	1/4W	
R633	1-216-377-11	METAL OXIDE	4.7	5%	2W	F
R634	1-216-378-11	METAL OXIDE	5.6	5%	2W	F
R636	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R637	1-249-377-11	CARBON	0.47	5%	1/4W	F
R651	1-211-874-11	FUSIBLE	0.12	10%	1/2W	
R652	1-211-874-11	FUSIBLE	0.12	10%	1/2W	
R653	1-219-154-11	FUSIBLE	0.12	10%	1/4W	
R654	1-219-154-11	FUSIBLE	0.12	10%	1/4W	
R655	1-219-154-11	FUSIBLE	0.12	10%	1/4W	
R656	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R658	1-215-445-00	METAL	10K	1%	1/4W	
R659	1-216-349-71	METAL OXIDE	1.0	5%	1W	F
R660	1-249-420-11	CARBON	1.8K	5%	1/4W	
R661	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R663	1-249-417-11	CARBON	1K	5%	1/4W	
R664	1-249-417-11	CARBON	1K	5%	1/4W	
R665	1-249-429-11	CARBON	10K	5%	1/4W	
R666	1-249-417-11	CARBON	1K	5%	1/4W	
R667	1-249-417-11	CARBON	1K	5%	1/4W	
R668	1-249-403-11	CARBON	68	5%	1/4W	
R669	1-249-421-11	CARBON	2.2K	5%	1/4W	
R670	1-249-425-11	CARBON	4.7K	5%	1/4W	
R671	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R672	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R701	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R702	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R703	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R704	1-249-417-11	CARBON	1K	5%	1/4W	
R705	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R706	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R707	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W	
R708	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R709	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R710	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R711	1-249-429-11	CARBON	10K	5%	1/4W	
R712	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R713	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R717	1-249-417-11	CARBON	1K	5%	1/4W	
R721	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R722	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R723	1-216-650-11	METAL CHIP	910	0.50%	1/10W	
R724	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R725	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R800	1-249-377-11	CARBON	0.47	5%	1/4W	F

D

The components identified by ⋈ in this manual have been carefully factory-selected for eachset in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R804	1-216-295-91	CONDUCTOR, CHIP			
R806	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R807	1-216-081-00	METAL GLAZE 22K	5%	1/10W	
R808	1-249-432-11	CARBON 18K	5%	1/4W	F
R809	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R810	1-216-097-91	METAL GLAZE 100K	5%	1/10W	
R811	1-218-756-11	METAL CHIP 150K	0.50%	1/10W	
R812	1-216-295-91	CONDUCTOR, CHIP			
R813	1-216-295-91	CONDUCTOR, CHIP			
R814	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R815	1-215-886-11	METAL OXIDE 100	5%	2W	F
R816	1-208-824-11	METAL CHIP 56K	0.50%	1/10W	
R818	1-215-467-00	METAL 82K	1%	1/4W	
R901	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R903	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R905	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R907	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R909	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R911	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R912	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W	
R914	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R915	1-216-097-91	METAL GLAZE 100K	5%	1/10W	
R917	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R918	1-216-091-00	METAL GLAZE 56K	5%	1/10W	
R919	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R921	1-216-076-00	METAL GLAZE 13K	5%	1/10W	
R922	1-216-075-00	METAL GLAZE 12K	5%	1/10W	
R923	1-216-074-00	METAL GLAZE 11K	5%	1/10W	
R924	1-216-075-00	METAL GLAZE 12K	5%	1/10W	
R925	1-216-075-00	METAL GLAZE 12K	5%	1/10W	
R926	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R927	1-216-076-00	METAL GLAZE 13K	5%	1/10W	
R928	1-216-076-00	METAL GLAZE 13K	5%	1/10W	
R929	1-216-079-00	METAL GLAZE 18K	5%	1/10W	
R930	1-216-025-91	METAL GLAZE 100	5%	1/10W	
R931	1-216-025-91	METAL GLAZE 100	5%	1/10W	
R932	1-216-667-11	METAL CHIP 4.7K	0.50%	1/10W	
R933	1-216-049-91	METAL GLAZE 1K	5%	1/10W	
R934	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R935	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R936	1-249-417-11	CARBON 1K	5%	1/4W	
R937	1-208-810-11	METAL CHIP 15K	0.50%	1/10W	
R938	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R939	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R940	1-216-103-00	METAL GLAZE 180K	5%	1/10W	
R942	1-216-121-91	METAL GLAZE 1M	5%	1/10W	
R943	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R944	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R945	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R946	1-249-413-11	CARBON 470	5%	1/4W	
R947	1-249-413-11	CARBON 470	5%	1/4W	
R949	1-216-049-91	METAL GLAZE 1K	5%	1/10W	
R950	1-216-049-91	METAL GLAZE 1K	5%	1/10W	
R951	1-247-807-31	CARBON 100	5%	1/4W	
R952	1-247-807-31	CARBON 100	5%	1/4W	
R953	1-216-049-91	METAL GLAZE 1K	5%	1/10W	
R954	1-249-417-11	CARBON 1K	5%	1/4W	
R955	1-216-049-91	METAL GLAZE 1K	5%	1/10W	
R957	1-249-413-11	CARBON 470	5%	1/4W	
R958	1-247-807-31	CARBON 100	5%	1/4W	
R959	1-247-807-31	CARBON 100	5%	1/4W	
R960	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	
R961	1-218-760-11	METAL CHIP 220K	0.50%	1/10W	
R962	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W	
R963	1-208-774-11	METAL CHIP 470	0.50%	1/10W	
R964	1-216-639-11	METAL CHIP 330	0.50%	1/10W	
R965	1-208-774-11	METAL CHIP 470	0.50%	1/10W	
R966	1-208-774-11	METAL CHIP 470	0.50%	1/10W	
R967	1-216-647-11	METAL CHIP 680	0.50%	1/10W	
R968	1-216-651-11	METAL CHIP 1K	0.50%	1/10W	
R969	1-216-655-11	METAL CHIP 1.5K	0.50%	1/10W	
R970	1-216-655-11	METAL CHIP 1.5K	0.50%	1/10W	
R971	1-216-663-11	METAL CHIP 3.3K	0.50%	1/10W	
R972	1-216-699-11	METAL CHIP 100K	0.50%	1/10W	
R973	1-216-661-11	METAL CHIP 2.7K	0.50%	1/10W	
R974	1-216-663-11	METAL CHIP 3.3K	0.50%	1/10W	
R975	1-216-699-11	METAL CHIP 100K	0.50%	1/10W	
R976	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R977	1-208-774-11	METAL CHIP 470	0.50%	1/10W	
R986	1-216-089-91	METAL GLAZE 47K	5%	1/10W	
R987	1-216-089-91	METAL GLAZE 47K	5%	1/10W	
R990	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R993	1-249-429-11	CARBON 10K	5%	1/4W	
R994	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R995	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R996	1-216-065-00	METAL GLAZE 4.7K	5%	1/10W	
R997	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R998	1-249-429-11	CARBON 10K	5%	1/4W	F
R999	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
		<VARIABLE RESISTOR>			
⋈RV501	△1-241-767-21	RES, ADJ, CERMET 100K (HV ADJ)			
		<RELAY>			
RY501	1-755-137-11	RELAY			
RY601	△1-755-031-11	RELAY			
		<SWITCH>			
S901	1-762-816-11	SWITCH, TACTIL (BRIGHT-UP)			
S902	1-692-431-21	SWITCH, TACTILE (CENT)			
S903	1-762-816-11	SWITCH, TACTIL (CONT)			
S904	1-692-431-21	SWITCH, TACTILE (SIZE)			
S905	1-692-431-21	SWITCH, TACTILE (GEON)			
S906	1-692-431-21	SWITCH, TACTILE (COLOR)			
S912	1-692-431-21	SWITCH, TACTILE (RESET)			
S913	1-692-431-21	SWITCH, TACTILE (POWER)			
S918	1-762-816-11	SWITCH, TACTIL (BRIGHT-DOWN)			

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D

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<SPARK GAP>	
SG501	1-519-422-11	GAP, SPARK	
		<TRANSFORMER>	
T501	⚠X-4034-327-1	TRANSFORMER ASSY, FLYBACK	(NX-4111//J1E4)
T502	1-429-828-11	TRANSFORMER, FERRITE (DFT)	
T503	1-426-998-11	TRANSFORMER, FERRITE (HST)	
T504	1-431-056-11	TRANSFORMER, FERRITE (HDT)	
T601	1-431-054-11	TRANSFORMER, CONVERTER (SRT)	
		<THERMISTOR>	
TH501	1-807-796-11	THERMISTOR	
TH601	⚠1-810-509-11	THERMISTOR	
THP602	⚠1-809-827-11	THERMISTOR, POSITIVE	
		<VARISTOR>	
VA601	⚠1-810-622-11	VARISTOR	
		<CRYSTAL>	
X900	1-567-890-11	VIBRATOR, CRYSTAL	
		**********	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	⚠1-409-975-12	COIL, DEMAGNETIZATION	
	1-452-369-41	MAGNET, RING (6P)	
	1-573-983-31	CONNECTOR (D SUB) (CONNECTOR)	15P (CPD-200SF)
	⚠1-558-481-12	CORD, POWER (10A/125V)	(CPD- 200SF AUS)
	⚠1-765-717-11	CORD SET, POWER (10A/250V)	(CPD-200SF ES/CPD-200SFT AEP)
	⚠1-765-718-11	CORD SET, POWER (10A/125V)	(CPD-200SF U/C)
	⚠1-775-706-11	CORD SET, POWER (10A/250V)	(CPD-200SFT UK)
	1-774-648-21	ADAPTOR, CONVERSION (CPD-200SFT)	
	1-778-967-21	ADAPTOR, CONVERSION (CPD-200SF)	
	1-776-975-31	CABLE ASSY(15P DSUB CONNECTOR)	
	⚠8-451-478-71	DEFLECTION YOKE (Y17SAH5-M7)	
	⚠8-738-709-92	ITC ASSY (17SASK-R2)	(CPD-200SF US/CN)
	⚠8-738-709-91	ITC ASSY (17SASK-R3)	(CPD-200SF ES)
	⚠8-738-713-91	ITC ASSY (17SASK-RS1)	(CPD-200SF AUS)
	⚠8-738-605-95	ITC ASSY (17SAFK-R6)	(CPD-200SFT AEP, UK)
V901	⚠8-738-709-05	PICTURE TUBE (17SASK)	(CPD-200SF US/CN, ES)
V901	⚠8-738-713-05	PICTURE TUBE (17SASK)	(CPD-200SF AUS)
V901	⚠8-738-605-05	PICTURE TUBE (17SAFK)	(CPD-200SFT AEP, UK)

Sony Corporation
Display Company
Quality Engineering Dept.

9-978-559-01

English
96JL05129-1
Printed in Japan
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